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Protecting and Promoting Wildlife and Habitat on State and Private Land in Washington's Arid Interior

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I. Introduction

One of the challenges that must be met if wildlife habitat is to be preserved in settled rural areas, both for its own sake and as an element of biodiversity protection, is the development of conservation strategies effective across the mosaic of ownerships and land uses that coincide with wildlife habitat. It is by now axiomatic that conservation efforts must reach beyond protected enclaves to engage conditions on public and private land subject to other uses.[1] Vital remnant populations and important habitat lie on such lands, and certain animal species require extensive ranges that do not coincide with the boundaries of preserves.[2] Of equal importance is the consideration that a broad scale approach, affecting many individual parcels of land, can transform a landscape, creating networks of forage, shelter and range for wildlife, and supporting biodiversity and ecosystem health generally against a background of human uses.[3]

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1. *See, e.g.*, RICHARD T. FORMAN, LAND MOSAICS: THE ECOLOGY OF LANDSCAPES AND REGIONS (1995); LANDSCAPE LINKAGES AND BIODIVERSITY (W.E. Hudson, ed., 1991); M.L. MORRISON, ET AL., WILDLIFE-HABITAT RELATIONSHIPS (1992); NATIONAL COMMISSION ON THE ENVIRONMENT, CHOOSING A SUSTAINABLE FUTURE 113–30 (1993); RUTHERFORD H. PLATT, LAND USE CONTROL: GEOGRAPHY, LAW AND PUBLIC POLICY 18–37 (1991); U.S. GENERAL ACCOUNTING OFFICE, ECOSYSTEM MANAGEMENT: ADDITIONAL ACTIONS NEEDED TO ADEQUATELY TEST A PROMISING APPROACH 57 (Aug. 1994); Lee P. Breckenridge, *Renewing the Landscape: The Institutional Challenges of Ecosystem Management for Lands in Private Ownership*, 19 VT. L. REV. 363 (1995); David Farrier, *Conserving Biodiversity on Private Lands: Incentives For Management or Compensation For Lost Expectations?*, 19 HARV. ENVTL. L. REV. 303 (1995); R. Edward Grumbine, *What is Ecosystem Management*, 8 CONSERVATION BIOLOGY 27, 34 (Mar. 1994); Douglas O. Linder, *"Are All Species Created Equal?" And Other Questions Shaping Wildlife Law*, 12 HARV. ENVTL. L. REV. 157, 194–95 (1988); Reed F. Noss, *Protecting Natural Areas in Fragmented Landscapes*, 7 NATURAL AREAS J. 2, 4 (1987); Reed F. Noss, *A Regional Landscape Approach to Maintain Biodiversity*, 33 BIOSCIENCE 700 (1983); Dennis A. Saunders et al., *Biological Consequences of Ecosystem Fragmentation: A Review*, 5 CONSERVATION BIOLOGY 18 (1991).

2. In addition to the sources cited supra in note 1, see THE GREATER YELLOWSTONE ECOSYSTEM: REDEFINING AMERICA'S WILDERNESS HERITAGE (Robert B. Keiter & Mark S. Boyce, eds. 1991).

3. *See supra* notes 1–2.

The term "bioregion" has been coined to describe a geographical area capable of being understood as a place of interaction among the natural and human-created features of a landscape. The term is intended to capture the fact of the dynamic interaction among social, political and economic processes and the non-human environment. An integrated bioregional approach

The object of this paper is to describe efforts now under way in the interior uplands of Washington State's Columbia Plain to restore and protect upland wildlife habitat and wildlife species in a busy and intensively used agricultural and range landscape.[4] It is a landscape of greatly diminished ecological integrity, dominated by private land holdings, and where the remaining public lands are recovering from earlier periods of farming or grazing or still dedicated to productive use under lease or permit. Recent ecosystem assessments make clear that there are few areas of the Columbia Plain's original grass and shrub land which have not been significantly reshaped by farming and grazing.[5] Any hope for preservation and extension of wildlife habitat and populations and for protection of remnant features of the native landscape will have to be realized against that background and against the background of increasingly intense uses of the land.[6] The task will require substantial remediation of conditions created in the past, and ongoing efforts to accommodate the needs of wildlife in the face of development pressures. The great likelihood is that the protection and extension of wildlife habitat will occur not by restoring former biodiversity or reconstituting habitat structures where native vegetation dominates, but by cobbling together native and introduced elements to maintain a place for wildlife in a landscape already heavily reshaped by human use.[7]

The conditions in Washington's Columbia Plain, and the habitat work there, embody many of the difficulties which have been identified in the growing body of literature concerned with the problem of protecting remnant natural landscape elements and wildlife habitat in developed landscapes.[8] This paper offers an account of the interaction between the landscapes, land owners, and the program design or state-sponsored land habitat projects on farmlands and rangelands in Washington's arid interior. The paper will apply some of the insights of the ecosystem management literature to tell the story of a particular set of habitat efforts in a particular landscape. What follows is largely a story of imperfect tactics and partial success in a far from pristine landscape. Those very conditions may make the story useful as an instance of the problem of realizing habitat and biodiversity goals.

This is the first of a two-article series.[9] This article focuses on the habitat work being conducted under the Washington Department of Fish and Wildlife's [10] Upland Wildlife Restoration Program.[11] The UWRP is concerned chiefly with private lands, and with state lands acquired specifically to restore habitat values in the midst of farm landscapes. The companion piece will consider the problems of accomplishing wildlife habitat goals on state trust lands that must, by law, be managed for present and future revenue generation for trust beneficiaries.[12] I have chosen these two Washington projects

seeks to account for human activities and institutions as elements of the broader ecological framework. One goal of that process is to undertake what is commonly labeled "ecosystem management" in aid of maintaining the viability of natural systems against the background of human activity. The label suggests a capacity for planning and execution which may be hard in fact to realize. The process of ecosystem management has been described as follows: "Ecosystem management integrates scientific knowledge of ecological relationships within a complex sociopolitical and values framework toward the general goal of protecting native ecosystem integrity over the long term." Grumbine, *supra* note 1, at 34.

The literature has begun to reflect an appreciation of the difficulty of converting "ecosystem management" as an aspiration into practical, on-the-ground strategies capable of realization. *See, e.g.*, R. Edward Grumbine, *Reflections on "What is Ecosystem Management,"* 11 CONSERVATION BIOLOGY 41 (1997); Ronald D. Brunner & Tim W. Clark, *A Practice-Based Approach to Ecosystem Management*, 11 CONSERVATION BIOLOGY 48 (1997).

For a proposed application of these principles to the Columbia Plain, see U.S. FOREST SERV., U.S. DEP'T AGRIC., A FRAMEWORK FOR ECOSYSTEM MANAGEMENT IN THE INTERIOR COLUMBIA BASIN AND PORTIONS OF THE KLAMATH AND GREAT BASINS (1996).

Breckenridge, *supra* note 1, and Keiter & Boyce, *supra* note 2, offer analyses of concrete ecosystem management efforts in the northern forests of New England and New York State and of the Yellowstone ecosystem, respectively.

4. See Part II.A, *infra*, for a description of the Columbia Plain.

5. *See* GRANT A. HARRIS & MARTHA CHANEY, WASH. RANGELAND COMMITTEE, WASH. CONSERVATION COMMISSION, WASHINGTON STATE GRAZING LAND ASSESSMENT 41–73 (1984).

6. *See* U.S. FOREST SERV., U.S. DEP'T AGRIC., STATUS OF THE COLUMBIA BASIN, SUMMARY OF SCIENTIFIC FINDINGS (Nov. 1996); U.S. FOREST SERV., U.S. DEP'T AGRIC., INTEGRATED SCIENTIFIC ASSESSMENT FOR ECOSYSTEM MANAGEMENT IN THE INTERIOR COLUMBIA BASIN AND PORTIONS OF THE KLAMATH AND GREAT BASINS 97–99, 103–4, 120 (Sept. 1996) (hereinafter INTEGRATED SCIENTIFIC ASSESSMENT).

7. *See* sources cited *supra* note 6.

8. *See* sources cited *supra* note 1.

9. The second article of this series is scheduled to be published in 5 WEST-NORTHWEST (forthcoming Winter 1998) (manuscript on file with author).

10. The Washington Department of Wildlife and the Washington Department of Fisheries were consolidated into the Washington Department of Fish and Wildlife in 1995. For ease of reference, the Department and its predecessors will be referred to throughout as the "Wildlife Department" or "Department"

11. The Upland Wildlife Restoration Wildlife Restoration Program hereinafter will be referred to as "the UWRP"

12. The Washington Department of Natural Resources' organization, statutory mandate and leasing procedures with respect to state trust lands are described at Revised Code of Washington sections 43.30 and 79.01. REV. CODE WASH. §§ 43.30 and §79.01 (1983). Of the state's 3.1 million acres of trust lands, non-forest agricultural and grazing lands constitute approximately one third. *See* WASH. DEP'T NAT. RESOURCES, 1993–1994 ANNUAL REPORT at 4. The non-forested lands have historically been leased to farmers and ranchers to generate revenue in accordance with the Department of Natural Resources' trust mandate. *See* WASH. REV. CODE §. 79.01 (1996).

because they are concerned with land that is dedicated to farming and grazing, and because the projects are being conducted by two well-established state natural resources agencies with counterparts throughout the West. The Washington Wildlife Department is charged with the management of wildlife and wildlife habitat, and the state Department of Natural Resources is charged with management of the state trust lands. The Washington projects depend on the capacity of these two old-line state natural resource agencies, each with an established presence in the landscapes where the projects are going forward, to adapt their operations to the needs of such habitat work.

The Department's UWRP arose independent of concerns with compliance with state and federal endangered species acts. None of its projects, with the exception of a recovery project for the pygmy rabbit, a Washington endangered species,[13] is defined by a pressing, imminent application of federal or state endangered species law, nor shaped primarily by other, insistent environmental law. Thus, the UWRP is functioning not as a coercive, preventive structure, but as a structure that enables voluntary arrangements between land owners and natural resource agencies.

Further, the UWRP's projects are grounded in the Wildlife Department's statutorily-defined role as a hunting and game management agency.[14] Acting in that role, the Wildlife Department has developed a program whose outlines are based on the familiar link between habitat protection and the pursuit of game. The clearest expression of that linkage is a program design that trades on the willingness of landowners to make their property available for habitat work in exchange for help managing public pressures for hunting access in a landscape where hunting is generally accepted and approved. That link between hunting opportunities and habitat work is embedded in the program because of the continuing dependence of the Wildlife Department on hunting related revenues for conducting habitat work.[15] The extent of the rigor and focus of the UWRP as a method for addressing habitat loss is thus in large part a product of the missions that the Wildlife Department has historically performed and of the adaptability of the agency's hunting-based resources and relationships to the task of establishing an enduring structure of habitat for all upland wildlife.

The Washington Wildlife Department's work on private lands has, at its best, emphasized cultivation of relationships with individual landowners, and a site-specific approach to establishing habitat for wildlife. The program has also encouraged individual initiative in local wildlife managers to identify, establish and maintain habitat structures in cooperation with local landowners. Those approaches were originally developed to promote game species and public hunting opportunity, but they are now being applied to accomplish more general habitat goals.

The UWRP is best understood, then, as an instance where a state wildlife agency, operating out of an established game promotion mandate, adapts that role to a broader habitat protection mandate. The UWRP is a natural extension of a first generation of habitat efforts focused on game species, but which have been reshaped by demands within and without the Wildlife Department for more holistic management approaches. This article explores how well suited the Program's origins, and its continuing allegiance to recreational hunting, have proved to be in establishing habitat projects with good prospects both for survival and for addressing pressing habitat needs for game and non-game species alike.

The ecosystem management literature posits that the institutions and techniques used to do habitat work must fit well in the social environment where the work is going forward. Such an approach views human beings and human institutions as integral parts of the ecosystems they inhabit, use, and alter, and sees human activity as a source of constraint and possibility in realizing habitat goals.[16] A central premise of the UWRP is that the Wildlife Department's commitment to hunting and its dependence on hunting-based revenues for habitat work not only dovetails with, but also serves the goal of preserving and extending habitat in Washington's arid interior. The Program presupposes that one of the most potent foundations in the countryside for the preservation of wildlife remains the long-established presence of the Wildlife Department, working with other farmland natural resource agencies.[17]

The paper will make plain that the most severe challenge faced by the UWRP is the ongoing process of dramatic transformation of the landscape of the Columbia Plain, where habitat is everywhere in

13. See note 27 *infra* for discussion of the listing of the pygmy rabbit as a Washington endangered species. The pygmy rabbit recovery project will be described in Part II of this article *See supra*. note 9.

14 *See* WASH REV CODE § 79 01et seq. (1996)

15 *See* text accompanying notes 31–39 *infra*.

16 *See supra* notes 1 & 2

17 *See* note 107 and accompanying text *infra*

jeopardy and where the pressures on land are unrelenting. Thus far, the techniques deployed by the UWRP have succeeded to the degree that they have been responsive to the farm and range economies of the region or to the extent that they are operating in portions of the region where development pressures on land are less acute. But the preservation of habitat in portions of the region where development pressures are more acute may require a regulatory capacity to control development, and a budget to buy out development rights, which the UWRP does not have at its disposal. The longer term success of the Program will depend on whether it can be linked to more systemic efforts for upland habitat, and whether its presence on private lands can be made more secure. The next two sections consist of a brief overview of the UWRP and of a physical description of the Columbia Plain and its ecological transformation. The paper then turns to a detailed description of the UWRP's operations.

II. The Upland Wildlife Restoration Program—An Overview

The Upland Wildlife Restoration Program has two main elements. The broadest effort, the Farmer Cooperative Project, is focused on the preservation and extension of habitat on private farm and ranch land through cooperative agreements with landowners.[18] The goal simply is to restore and protect habitat in farmland and rangeland environments where to do so will materially improve the prospects for wildlife. There are two basic arrangements. Either the state leases chosen habitat sites from landowners, or the landowner allows state habitat work to be done on the land without monetary compensation.[19] Each arrangement requires that the landowner allow controlled public hunting access to the land and therefore depends on the acceptance of hunting as a legitimate activity. The effort has enjoyed notable success—over 400 landowners with aggregate holdings of more than 600,000 acres have dedicated some portion of their lands to habitat remediation, most without money compensation.[20] But because the Project depends either on fixed-term leases or open-ended voluntary arrangements not involving compensation, it faces the longer term challenge of keeping its habitat sites in place once they have been established, and on maintaining the continuing good will of landowners.[21]

The second element of the UWRP, the Farmland Wildlife Project, is focused on the purchase by the Wildlife Department of relatively small but interrelated habitat sites in the intensively farmed irrigation landscape of the Federal Bureau of Reclamation's Columbia Basin Project.[22] The goal of the Farmland Wildlife Project is to create a mesh of mutually supporting habitat sites to support all farmland wildlife in a landscape dominated by intensive farming and by the collateral land development that has come with an irrigation economy. Part of the attractiveness of the Project, from a biological standpoint, is the topography of the Columbia Basin Project. The landscape includes large pockets of non-irrigable land retaining significant habitat value. Those lands are managed variously by the Bureau of Reclamation, the U.S. Fish and Wildlife Service and the State of Washington, and relate the UWRP's small acquisitions to larger structures of habitat on public lands.[23] The decision to buy land under the Farmland Wildlife Project rather than adopting the paid lease or voluntary use approach of the Farmer Cooperative Project was based on two factors. First, many farmers in the highly controlled irrigation environment of the Columbia Basin Project were unwilling to permit a Wildlife Department presence as a lessee because of concerns about interference with normal production activities.[24] Second, the Wildlife Department was reluctant to attempt habitat work on land it did not own because the high economic and crop value of irrigated land create a great likelihood that habitat work done there would in time succumb to market pressures. The same sense of incompatible goals

18. *See* WASH. STATE UPLAND WILDLIFE RESTORATION PROGRAM, WASH. DEP'T WILDLIFE, WASHINGTON STATE ECOSYSTEM CONSERVATION PROJECT REPORT (Apr. 1990) (hereinafter ECOSYSTEM CONSERVATION PROJECT REPORT).

19. *See* text accompanying notes 115–118 *infra*.

20. *See* WASH. DEP'T FISH & WILDLIFE, UPLAND WILDLIFE RESTORATION PROGRAM ACREAGE REPORT (Dec. 1994); *Summary and Results of Enhancement Efforts Statewide Projects*, 1 SCRATCHING AFIELD 5 (1995) ("Newsletter for landowners, sportsmen and wildlife enthusiasts," published by the Upland Wildlife Restoration Division of the Washington Department of Fish and Wildlife).

21. *See* Part III. C *infra*.

22. *See* ECOSYSTEM CONSERVATION PROJECT REPORT *supra* note 18. The Columbia Basin Project is a federal Bureau of Reclamation irrigation project that has brought approximately 558,000 acres of land under irrigation with water diverted from Lake Franklin D. Roosevelt, the portion of the Columbia River impounded by the Grand Coulee Dam. For a history and description of the Project, see PAUL C. PITZER, GRAND COULEE, HARNESSING A DREAM (1994).

23. *See* U.S. BUREAU RECLAMATIONS, U.S. DEP'T INTERIOR, SUPPLEMENT TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT—CONTINUED DEVELOPMENT OF THE COLUMBIA BASIN PROJECT (Sept. 1993) (hereinafter SUPPLEMENT TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT).

24. See text accompanying notes 134–162, *infra*, for a more complete exposition.

that made owners reluctant to make a place for wildlife on their own ground and that made the department reluctant to acquire less than full title to sites has, however, frustrated the effort to find willing sellers of land in necessary locations. Although twenty properties aggregating 1,442 acres have been acquired,[25] the Department has at times found itself buying what it could, rather than buying what it might have preferred. As a result, the holdings are sometimes larger and more concentrated than originally contemplated, and the original scheme of evenly distributed and mutually interacting habitat sites has been only partly realized.[26] The discussion below will offer an account of the reasons for that qualified success.

This paper will also describe briefly a related Wildlife Department program focused on acquisition of larger, contiguous blocks of habitat critical for species of special concern. Specifically, the program targets the Columbian sharp-tailed grouse and associated upland species, the sage grouse, and pygmy rabbit, a Washington endangered species.[27] A discussion of those projects, which are independent of the UWRP illustrate that, even when land is acquired specifically to extend and protect wildlife habitat, the earlier history of the acquired land and the continuing uses of private land in the locality have a material, limiting effect on what can be accomplished. Important sites aggregating over 35,000 acres have been acquired for those projects,[28] but their success depends in part on the impact of activities on nearby private lands and on the vulnerability of the sites to pressures to expand non-wildlife uses on the sites themselves. Both sets of pressures are substantial in a farming and ranching landscape where the very fact of purchase of land for conservation uses is controversial.

The Upland Wildlife Restoration Program is not the sole active program focused on the protection and extension of wildlife habitat on private land in the state's upland interior. The Wildlife Department has also become deeply involved in developing habitat conservation plans for larger private holdings, chiefly of forest lands.[29] The U.S. Fish and Wildlife Service is working with private landowners to preserve wetlands and riparian zones. Private groups, such as The Nature Conservancy and the Inland Northwest Land Trust, have an important presence. In addition, the conservation programs of the U S. Department of Agriculture, especially the Conservation Reserve Program, have placed a new emphasis on the protection of habitat values rather than focusing chiefly on the prevention of erosion.[30] What makes the UWRP important as a special subject of study is the extent of its field record in dealing with individual private landowners in the devel-

25. *See* WASHINGTON DEP'T OF FISH & WILDLIFE, UPLAND WILDLIFE RESTORATION PROGRAM—GRANT, ADAMS, FRANKLIN COUNTIES. ACQUIRED PROPERTIES UNDER UPLAND WILDLIFE RESTORATION PROGRAM 1 (1995) (hereinafter ACQUIRED PROPERTIES UNDER UPLAND WILDLIFE RESTORATION PROGRAM).

26. *See* text accompanying notes 135–163 *infra*.

27. The pygmy rabbit was classified by the Washington Wildlife Commission (now Fish and Wildlife Commission) as a State Threatened Species in 1990, *see* WASH. ADMIN. CODE § 232–12–011 (1997), and reclassified as a State Endangered Species in 1993, *see* WASH. ADMIN. CODE § 232–12–014 (1997). *See also* WASH. DEP'T FISH & WILDLIFE, WASH. STATE RECOVERY PLAN FOR THE PYGMY RABBIT (July 1995). The sage grouse and the Columbian sharp tailed grouse have not been so classified, but are candidates for protection under both state and federal law, and the precarious state of their populations has made each a subject of special management concern. *See* WASH. DEP'T FISH & WILDLIFE, WASHINGTON STATE MANAGEMENT PLAN FOR SAGE GROUSE (July 1996); WASH. DEP'T OF FISH & WILDLIFE, WASHINGTON STATE MANAGEMENT PLAN FOR SHARP-TAILED GROUSE (July 1995) (hereinafter SHARP-TAILED GROUSE PLAN).

Other shrub-steppe and meadow steppe species of special present concern are Swainson's Hawk, the Ferruginous Hawk, the Prairie Falcon, the Long-Billed Curlew, the Burrowing Owl, the Loggerhead Shrike, Ord's Kangaroo Rat, and the Kincaid Meadow Vole. *See* INTEGRATED SCIENTIFIC ASSESSMENT, *supra* note 6 at Appendix C ("Habitat Outcomes for Selected Species Within the Basin"), and sources cited therein.

28. The acquisitions have been funded through a number of separate facilities. Approximately 12,000 acres intended primarily as critical sharp-tailed grouse habitat was acquired at three different sites in Okanogan County. The state's participation in the acquisition of the lands for each of these two major projects was accomplished through the Washington Wildlife and Recreation Coalition. *See* WASH. REV CODE §§ 43.98A & 43.98B(1983). The Coalition is a creature of statute whose funding was provided by the legislature through an Interagency Committee for Outdoor Recreation.

The largest of the sharp-tailed grouse restoration sites is approximately 10,800 acres. An additional 19,000 acres of habitat chiefly intended for recovery of the sharp-tailed grouse and the burrowing owl, and a 240 acre site corresponding to one of the last remaining substantial pygmy rabbit burrow sites, have been acquired with federal Columbia River Wildlife Mitigation funds. *See* text accompanying and sources cited in footnotes 166–69, 177 and 179 *infra*. In addition to the acquisitions noted here, a number of smaller sites intended for recovery efforts of a wide variety of associated upland species have been purchased. *See id.*

29. Among the more important initiatives are a proposal to use watersheds as the relevant planning and management units for wildlife and habitat, and the ongoing efforts to work with local authorities to make the state's Growth Management Act an effective tool for the protection of wildlife habitat. *See, e.g.*, WASH. DEP'T FISH & WILDLIFE, 1993–94 ANNUAL REPORT (1994).

30. *See also* Agriculture Improvement and Reform Act of 1996, Pub L. No. 104–127, 110 Stat. 888 (1996); JEFFREY A. ZINN, CONG RESEARCH SERV *Soil and Water Conservation: Implementing the 1996 Farm Bill* (Dec. 10, 1996). Other valuable, reports by the Congressional Research Service on the improved responsiveness of USDA programs to habitat values include *Conservation Provisions in the 1996 Farm Bill A Summary* (Cong. Res. Serv. Rep. 96–330), *Conservation Compliance for Agriculture: Status and Policy Issues* (Cong. Res Serv Rep 96–648), and *Conservation Reserve Program: Status and Policy Issues*, (Cong. Res. Serv Rep. 96–760).

opment of particularized habitat strategies, and its history of creating habitat structures in actively used farmland and rangeland. The projects are ambitious, affect large tracts of country, and are potentially important for Washington wildlife. Moreover, the interaction of each of the projects with the social and physical landscapes offers important insights for others thinking about the problem of preserving habitat in similar landscapes.

The pivotal factor that allowed the UWRP to be undertaken was the availability of funds for habitat work grounded in the department's historical role as protector and promoter of game species.[31] Reliance on game-based funding is an important reality for Washington's Wildlife Department, especially in times of intense competition among state agencies for appropriations from general revenues.[32] In the case of funding the UWRP, money available each year through the federal grant-in-aid for wildlife program under the Pitman-Robertson Aid to Wildlife Act[33] was combined with three special federal sources that came into being principally to remediate lost game habitat. The first two are the Snake River Mitigation Fund and the Columbia River Mitigation Fund,[34] each of which is intended to remediate habitat lost to dams and reservoirs on those rivers. The third is a special facility funded by the U.S. Department of the Interior to restore farmland wildlife and applied chiefly on lands lying within the boundaries of the federal Columbia Basin

31. Indeed, the special sense of urgency that led to the project arose from a concern with rapidly diminishing populations of wild game birds. Included among the reasons for acting were the impact of the decline of huntable populations on local economies during the hunting seasons, and the decline in hunting license fee revenues on which the department's operations, especially conservation work, depend. *See* WASHINGTON STATE ECOSYSTEMS CONSERVATION PROJECT REPORT, *supra* note 18, at 1–4.

32. The importance of game-based funding for upland wildlife habitat work in Washington state is plain from the state Fish and Wildlife Department's June 5, 1996 reply to a request for information on upland bird management from the Natural Resources Committee of the Washington State Senate. That report indicates that in the years 1991 through 1996, when annual expenditures for upland wildlife restoration ranged between $1.44 and $1.55 million per year, the amount contributed by game-based sources was never less than 90% of the total amount expended on such habitat work. *See* SENATE NATURAL RESOURCES COMMITTEE PHEASANT MANAGEMENT INFORMATION REQUEST 12 (July 5, 1996).

33. *See* Federal Aid in Wildlife Restoration Act of 1970, 50 Stat. 917, C. 899 (1937)(codified at 16 U.S.C. §669 et seq. (1994)). The most significant, perennial source of funding for state habitat work in Washington remains monies provided through the federal grant in aid for wildlife programs under the Pitman-Robertson Act. For example, during the period 1991 through 1996, Pitman-Robertson Federal Aid to Wildlife ranged between 33% and 40% of the total of all amounts spent on upland wildlife restoration. *See* SENATE NATURAL RESOURCES COMMITTEE PHEASANT MANAGEMENT INFORMATION REQUEST, *supra* note 32, at 12. State statutory authority for Washington's participation in Pitman-Robertson programs is codified at Revised Code of Washington, section 77.12.430 (1996).

From its beginnings, the Department has also maintained a Game Fund whose main sources of revenue have been license fees, fines and private contributions in aid of wildlife. *See* 1933 Wash. Laws ch. 3 § 30.

34. The Snake River Mitigation Fund was established by the Fish and Wildlife Coordination Act of 1958. *See* FISH AND WILDLIFE COORDINATION ACT, 48 Stat. 401 (codified as amended at 16 U.S.C. § 661 et seq. (1994). The Act required an analysis of fish and wildlife impacts associated with Federal water projects as well as compensation measures to avoid and/or mitigate for loss of or damage to wildlife resources. *See* 16 U.S.C. § 662 (b) (1994). In order to be in compliance with the Coordination Act, the U.S. Army Corps of Engineers in 1975 wrote a report introducing the Lower Snake River Fish and Wildlife Compensation Plan (LSRFWCP). *See* SIGNE SATHER-BLAIR ET AL., U.S. FISH & WILDLIFE SERV., SPECIAL REPORT, LOWER SNAKE RIVER FISH AND WILDLIFE COMPENSATION EVALUATION FOR THE LOWER SNAKE RIVER PROJECT 1–2 (June 1991) (summarizing 1975 U.S. Army Corps of Engineers 1975 report). The LSRFWCP was authorized by Congress as part of the Water Resources Development Act of 1976 to provide compensation for wildlife habitat lost as the result of the building of dams and the raising of reservoirs on that river. *See id.* at 2. The Washington Wildlife Department was designated as the lead agency to conceive and execute habitat acquisition strategies. *See id.*

The Columbia River Mitigation Fund is a product of the 1980 Northwest Power Act. *See* Pub. L. No. 96–501, 16 U.S.C. §§ 839–839h (1984). The Act directed the restoration or mitigation of the fish, wildlife, and habitat lost when federal Columbia River dams were built. The requirement originated in a provision of the Northwest Power Act which created the Northwest Power Planning Council and directed the Council as part of its management responsibilities over power facilities along the Columbia River to restore or mitigate the fish and wildlife habitat lost when the federal Columbia River dams were built. *See* 16 U.S.C. § 839 (6), 839b(e), (f), (h) & 839d (1984). The Washington Department of Fish and Wildlife was designated as the lead state agency charged with actual implementation of the mitigation proposal. *Id.* On-the-ground mitigation project proposals developed by the Wildlife Department are reviewed by the Steering Committee and Grand Coulee Advisory Group before being subjected to the BPA implementation process and funding consideration. *See id.*

The calculation of mitigation obligations under both the Columbia River and the Snake River programs is relatively complex, calling for the replacement of a given lost habitat unit with another equivalent unit. The intent is to make the mitigation effort more responsive to actual losses than would a mitigation formula based on lost acreage.

In the case of the Columbia River mitigation program, the acquisition of sites has been significantly slowed by negotiations between state and federal officials over the calculation of habitat needed to meet the federal government's mitigation obligations. Conversation with Ron Fox, Rocky Ross, Gretchen Steele, and Julie Anderson of the Washington Department of Wildlife. Three substantial sites have been acquired under the Columbia River program. *Id.* No formula has been settled on for computing mitigation and it is unclear just how extensive the efforts will be. *Id.* Such basic questions as the interplay between quantitative measures and qualitative measures of mitigation have yet to be resolved. *Id.*

Irrigation Project.[35] Pitman-Robertson funds are derived from federal excise taxes on the sale of sporting arms and ammunition, and their availability for approved habitat projects is conditioned on the exclusive use of state hunting license revenues to support the operations of the state wildlife agency.[36] Thus, Pitman-Robertson funds exist because of hunting, and they become available to states as a result of the dedication of hunting license fees to the support of wildlife departments. The Snake River Fund legislation in its turn includes a provision specifically requiring public hunting access to all sites acquired as mitigation habitat.[37] The Department of the Interior facility for farmland wildlife, albeit concerned with the health of farmland wildlife generally, was created in the hopes of restoring huntable populations of wild game birds.[38] Only the Columbia River Wildlife Mitigation program is not firmly tied to a concern with game species, focusing in its first phase on shrub-steppe wildlife generally, including non-game species such as the pygmy rabbit as well as game species whose numbers make them no longer huntable, notably the sharp tailed grouse and the sage grouse.[39]

Dependence on game-based funding to do general habitat work is altogether typical for state wildlife agencies, a legacy of why they first came into existence and a product of a structure of state and federal funding geared to the promotion of game and game habitat.[40] The most significant source of public funds routinely available to improve the prospects for wildlife on non-federal lands had been grants-in-aid for wildlife under the Pitman-Robertson Act, available because of a concern for the protection of game species.[41] This was especially true before the emergence of the Endangered Species Act as a forcing mechanism for maintaining a place for certain identified species and their habitats.

Funding for wildlife and habitat has become more varied in Washington State since the creation in 1990 of a statutory Habitat Conservation Account for land acquisition.[42] To date, almost 40,000 acres of critical habitat for wildlife, 37,000 in the counties east of the Cascade Range, have been acquired with those funds.[43] But even on those lands, the historical pattern of dependence on game-based funding persists. The most substantial perennial source of money for habitat remediation, as opposed to land acquisition, remains Pitman-Robertson funds; they are critical because lands acquired with Habitat Conservation Account funds typically suffer from past uses and need substantial work to restore their value as habitat.[44] The key consequence of the linkage between habitat work and game-based funding is the insistence that habitat lands so funded be available for public access, chiefly hunting. The consequences of that linkage will be discussed in more detail below.

The following section offers an overview of Washington's Columbia Plain, the landscape where the projects are occurring. The paper then turns to an account of the Upland Wildlife Restoration Program and its interaction with the landscapes where it will need to succeed.[45]

35. During the period 1991 through 1996, funds from this source ranged between 45% and 60% of the total funds expended on upland wildlife habitat restoration on other than large-scale wildlife management areas. *See* SENATE NATURAL RESOURCES COMMITTEE PHEASANT MANAGEMENT INFORMATION REQUEST 12, *supra* note 32.

36. *See* 16 U.S.C. § 669 *et seq.* (1994).

37. *See* WASH. REV. CODE § 77.12.203(2) (1996); *see also* SATHER-BLAIR ET AL., *supra* note 34, at 1–2.

38. *See* WASHINGTON STATE ECOSYSTEM CONSERVATION PROJECT, *supra* note 18.

39. *See* SATHER-BLAIR ET AL., *supra* note 34.

40. *See* WILDLIFE MANAGEMENT INSTITUTE, ORGANIZATION, AUTHORITY, AND PROGRAMS OF STATE FISH AND WILDLIFE AGENCIES 5 & Chart 5 ("finances") (1987).

41. *See id.*

42. *See* WASH. REV. CODE §§ 43.98A & 43.99 (1983).

43. *See* INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION, WASHINGTON WILDLIFE AND RECREATION PROGRAM—HABITAT CONSERVATION ACCOUNT, FUNDED PROJECTS (Feb. 24, 1997). Appropriations from the state's general fund and money from such special pools for wildlife as the state's "vanity license plate" tax, constitute relatively small portions of the Wildlife Department's budget for habitat work. *See also* WASH. DEP'T FISH & WILDLIFE, 1995–96 ANNUAL REPORT (1996).

44. *See* WASH. DEP'T FISH & WILDLIFE, WILDLIFE AREAS AND DEPARTMENT LAND DESCRIPTIONS (1997) (Draft Report) (hereinafter WILDLIFE AREAS AND DEPARTMENT LAND DESCRIPTIONS).

45. The text that follows is in the form of a narrative, reflecting research that has relied as heavily on exchanges with landowners and on conversations and field visits with the staff of state and federal natural resource agencies as on published materials. I owe a special debt to the landowners who took the time to explain why they do or do not participate in habitat projects. Similarly, it would not have been possible to describe past and present habitat field operations of the Wildlife Department without the contributions of its field and headquarters staff. The accounts in this paper of the efforts to maintain and restore upland wildlife habitat, including descriptions of successes *and* failures, depend very much on the willingness of wildlife staff and landowners to spend days in the field with me explaining their work. I owe a special debt of gratitude to Dan Blatt, Manager of the Upland Wildlife Restoration Program, and to Juli Anderson, Ron Fox, Mark Grabski, Ted Johnson, Gordon Lavoy, Suzanne Nostrant, Chuck Perry, Scott Rasley, Mike Schroeder, Gretchen Steele, and David Ware, all of the Wildlife Department, each of whom gave generously of their time, knowledge and experience in providing background for this paper.

A. The Landscape

Washington State's Columbia Plain is an area of some 24,000 square miles lying east of the Cascade Range and bounded on the west, north, and southeast by forest-covered mountains.[46] It is an immense, topographically varied, and often rugged region, a plateau country cut by coulees and canyons, dominated by ranges of arid hills and mountains.[47] Prior to intensive agricultural development, it was a region of shrub and meadow steppe vegetation, sage brush and bunch grasses, with some woodlands in riparian zones and near springs.[48] It is generally thought that since the last glaciation few native ungulates grazed the area.[49]

The ecology of the Columbia Plain has been reshaped dramatically by generations of farming and stock rearing, as well as by public policies and public works geared to those activities. Cattle were introduced to the region in the 1840s and sheep in the 1880s.[50] Around the turn of the century, large numbers of sheep and cattle were moved across the state's open range interior in an annual passage between winter and summer ranges reminiscent of Spain's *transhumancia*.[51] Horses began to have a telling effect on the range with the proliferation of small farms following the Homestead Act of 1862.[52] This effect increased dramatically with the flourishing of the range cattle business and the introduction of horse-drawn combines after 1890.[53] Large teams of horses were used to draw farm equipment and typically were turned out on the open range when not needed, grazing freely until the next season's roundup.[54] It is now thought that the most serious damage to, and deterioration of, Eastern Washington's shrub-steppe and meadow steppe occurred from 1890 through 1910, a result chiefly of the many horses and sheep introduced to the region during the agricultural expansion of that period.[55]

Those earlier periods of heavy grazing and the opportunistic invasion of the disturbed rangeland by aggressive successor species have in most places destroyed the perennial bunch grass complexes that once covered much of the country.[56] The successor vegetation consists largely of noxious weeds, and of annual grasses of lower nutritive value with less complex and extensive root systems than the perennials they supplanted.[57] The successors have proven to be well-adapted and stable, so that better

46. *See* Appendix A, topography map 2-2 from INTEGRATED SCIENTIFIC ASSESSMENT, *supra* note 6. Professor Donald W. Meinig has labeled the area "the Columbia Plain." D.W. MEINIG, THE GREAT COLUMBIA PLAIN 3–16 (1995). Professor Rexford Daubenmire has labeled it "the Columbia Basin." R. DAUBENMIRE, STEPPE VEGETATION OF WASHINGTON 6 (1988). I have chosen Meinig's label because the name "Columbia Basin" is now so strongly associated with that part of the region lying within the federal Columbia Basin irrigation project that confusion would be inevitable.

47. *See* DAUBENMIRE, *supra* note 46; ALEXANDER C. MCGREGOR, COUNTING SHEEP: FROM OPEN RANGE TO AGRIBUSINESS ON THE COLUMBIA PLATEAU 6 (1982); MEINIG, *supra* note 46.

48. *See* DAUBENMIRE, *supra* note 46; MEINIG, *supra* note 46.

49. HARRIS & CHANEY, *supra* note 5, at 51; DAUBENMIRE, *supra* note 46; R.N. Mack & J.N. Thompson, *Evolution in Steppe with Few Large, Hooved Mammals*, 119 AMERICAN NATURE 757 (1982).

There is evidence in the fossil record, however, indicating a significant herbivore presence contemporaneous with the evolution of the grass and shrub species that constitute the dominant shrub-steppe plant communities. *See* J. WAYNE BURKEHARDT ET AL., PALEOLOGICAL RELATIONSHIPS OF PREHISTORIC EQUUS IN THE INTERMOUNTAIN WEST: AN OVERVIEW WITH IMPLICATIONS FOR MANAGEMENT OF WILD HORSES AND BURROS (Interior Columbia Basin Ecosystem Management Project 1994). That position suggests that the reasons for the known lack of resilience of Columbia Plain grasses and soils to grazing pressure may be related to the intensity of post-contact livestock grazing.

50. *See* WASH. DEP'T AGRIC. & WASH. DEP'T WILDLIFE, WASHINGTON LIVESTOCK 1-28 (1967) (hereinafter WASHINGTON LIVESTOCK).

51. *See* HARRIS & CHANEY, *supra* note 5 at 52–54; MEINIG, *supra* note 46 at 291–92; J.S. COTTON, BUREAU OF PLANT INDUSTRY, U.S. DEP'T AGRIC., RANGE MANAGEMENT IN THE STATE OF WASHINGTON, BUREAU OF PLANT INDUSTRY BULLETIN NO. 75 (1905); MACGREGOR, *supra* note 47, at 29-32 & 128-40; J.S. COTTON, WASH. STATE AGRIC. COLLEGE & SCH. SCIENCE, U.S. DEP'T AGRIC., A REPORT ON THE RANGE CONDITIONS OF CENTRAL WASHINGTON, BULLETIN 60 (1904). Cotton's early field work and his account of that work are important reading for students of the early range history of the Columbia Plain. I am indebted to Chuck Perry, Range Ecologist of the Washington Wildlife Department for introducing me to Cotton and other out-of-the way sources on the early range history of Washington.

52. *See* COTTON, RANGE MANAGEMENT IN THE STATE OF WASHINGTON, *supra* note 51. *See generally* WASHINGTON LIVESTOCK, *supra* note 50, at 1-28.

53. *See* COTTON, A REPORT ON THE RANGE CONDITIONS OF CENTRAL WASHINGTON, *supra* note 51; Francis D. Haines, *The Northward Spread of Horses Among Indians*, 40 AM. ANTHROPOLOGIST 429–37 (July 1938); HARRIS & CHANEY, *supra* note 5, at 53–54.

54. *See especially* HARRIS & CHANEY, *supra* note 5, at 53–54; MEINIG, *supra* note 46 at 376; Galen Lindeman, *The Columbia Plateau Grain Empire*, 6 COLUMBIA 20 (1992). An historical marker on the grounds of the Grant County courthouse in Ephrata, Washington memorializes the last great horse round up in that country, in 1906. Over four thousand horses were captured.

55. *See* HARRIS & CHANEY, *supra* note 5, at 53–54.

56. *See* Appendix B, range integrity map from INTEGRATED SCIENTIFIC ASSESSMENT, *supra* note 6. *See id.* at 66–73; COTTON, A REPORT ON THE RANGE CONDITIONS OF CENTRAL WASHINGTON, *supra* note 51; DAUBENMIRE, *supra* note 46.

57. The succession of the perennial bunch grasses by less desirable annual grasses and by weeds and shrubs indicative of excessive grazing has been well-chronicled. *See, e.g.*, HARRIS & CHANEY, *supra* note 5 at 38–40; COTTON, A REPORT ON THE RANGE CONDITIONS OF CENTRAL WASHINGTON, *supra* note 51; R.F. Daubenmire, *Plant Succession Due to Overgrazing in the Agropyron Bunchgrass*, 21 ECOLOGY 56 (1940); R.F. Daubenmire & W.E. Colwell, *Some Edaphic Changes Due to Overgrazing in the Agropyron-Poa Prairie of Southeastern Washington*, 23 ECOLOGY 32 (1942); SOCIETY FOR RANGE MANAGEMENT, ECOLOGICAL IMPLICATIONS OF LIVESTOCK HERBIVORY IN THE WEST 1–12, 110–124, 127–133, 177–211 (Martin Vavra et al. eds. 1994).

Many of the invaders are of the genus Centaurea, which embraces the knapweeds, star-thistle, thistle, and miscellaneous others. *See* HITCHCOCK & CRONQUIST, FLORA OF THE PACIFIC NORTHWEST 498 (1973); YERPHA M. GAINES & D.G. SWAN, WEEDS OF EASTERN WASHINGTON & ADJACENT AREAS (1972). Those plants are believed to originate in Central Asia and are thought to have come into the United States via Hungary, Romania, the Ukraine and other locales on the plains of Eastern Europe. They have been aggressive invaders, even in relatively undisturbed areas. Scott Lambert, Plant Materials Specialist of the Natural Resources Conservation Service of the United States Department of Agriculture, was especially helpful for his comments on the history of weed invasions in Washington State. Interview with Scott Lambert, U.S. Dep't Agric. (Oct. 31, 1995).

grazing practices alone would be inadequate to restore the health of the range in most cases.[58] For those damaged lands, it will be a matter of many years and intensive remediation efforts before conditions are improved.[59]

The impact of agriculture on the landscape has been still more dramatic. The spectacular expansion of cropland and pasture land has altogether eradicated much of the shrub steppe and native grassland.[60] The result has been the transformation of the dryland interior through the creation of great stretches of clean dryland wheat fields, as well as through the introduction of highly productive and highly controlled bands of irrigated agriculture in river valleys and within the boundaries of the federal Columbia Basin Irrigation Project.[61] Arable land is dedicated to intensively managed field crops, orchards, vineyards and pasture. There, cultivation techniques and planting patterns have pushed natural habitat to the fringes of planted lands, and even at those fringes have made survival of habitat difficult.[62] Agriculture initially increased food and water supplies for wildlife, but tractor cultivation led to larger fields and fewer and cleaner field edges.[63] In irrigated zones, agriculture and the related economy made possible by irrigation have put great pressure on farmland wildlife that thrived there in the first phases of irrigation development.[64] That earlier phase, with its smaller fields, rill irrigation techniques and more diverse crops, was more conducive to wildlife than the large field monocultures which have succeeded them.[65] Throughout the region the habitat value of riparian zones has also been diminished by farming and grazing practices.[66]

Industrial installations, recreational enclaves, and new construction on the edges of towns and cities are of increasing importance in shaping the region's landscapes.[67] The Columbia Plain is thus occupied to a degree that is sometimes masked by its expanses. Land and water are spoken for, and ecological potential has been greatly modified by human activity. It is a large area and difficult to conjure up with a few broad strokes. For those interested in a more thorough evocation of Washington s arid interior, the sources relied on in this Section offer a starting point.[68]

The impact of the region s development on its wildlife and native vegetation has been profound. An important indicator of this impact is the sheer extent of the eradication of native vegetation that has accompanied the agricultural triumph. For example, it is estimated that 4.2 million hectares (10.4 million acres) of the 6.3 million hectares of Washington's non-forested interior would originally have been classified as shrub-steppe, with a good portion of the remainder classified as meadow steppe or grassland.[69] Of those 4.2 million hectares of shrub-steppe, only about 1.7 million hectares, or

58. *See* HARRIS & CHANEY, *supra* note 5, at 74–81.

59. For an assessment of the present state of Washington's rangelands, see *id.* at 66–73

60. *See* WASH. DEP'T FISH & WILDLIFE, WASHINGTON STATE MANAGEMENT PLAN FOR SHARP-TAILED GROUSE ix (Oct. 1995)

61. *See* MEINIG, *supra* note 46, at 284–93.

62. *See generally* MCGREGOR, *supra* note 47.

63. *See generally* sources cited in note 1 *supra*.

64. *See* HARRIS & CHANEY, *supra* note 5.

65. *See, e.g.*, text accompanying notes 84–92 & 103–119 *infra*.

66. *See* INTEGRATED SCIENTIFIC ASSESSMENT, *supra* note 6.

67. *See id.* at 86. Twenty of the twenty-six counties lying east of the Cascades are subject to the state Growth Management Act by virtue either of their populations, or more typically, of their rates of population growth. *See* WASH. REV. CODE § 36.70A.040 (1) (1991). A provision of the Act with potentially great significance for the preservation of wildlife habitat is the requirement that each county and city subject to the Act develop regulations that protect "critical areas," including wetlands and fish and wildlife habitat conservation areas. *See* WASH. REV. CODE § 36.70A.030 (1), –050, –060 (1997). *See also*, WASH. ADMIN. CODE ch. 365–190 (1997) (describing the guidelines for the designation of "critical areas")

The growth management planning process is in the early days, and the requirement that there be planning calculated to protect critical areas is constructed loosely enough so that a plan may be in compliance and yet not be responsive to the needs of habitat or wildlife. This is true because management plans in their provision for wetlands and wildlife habitat protection may choose to subscribe to the minimum guidelines of the Department of Community, Trade and Economic Development (CTED), the agency charged with compliance with the Act, or to subscribe to more stringent guidelines based on the Wildlife Department's Priority Habitats and Species Program, which has developed criteria for the designation of priority habitats, and guidelines for their protection and enhancement. Some counties in Eastern Washington subject to the Act have chosen to employee the habitat designations criteria of the Wildlife Department's Priority Habitats and Special Program. Others have chosen the route of lesser compliance. *See* WASH. DEP'T COMMERCE, TRADE & ECON. DEVELOP., WASH. STATE WILDLIFE DEP T, FISH AND WILDLIFE PROVISIONS IN COUNTY CRITICAL AREAS ORDINANCE (Mar. 1996). Similar political considerations also exempted most agricultural activities from the required planning provisions of the Growth Management Act.

The impact of growth management planning on the preservation of wildlife habitat remains unsettled, chiefly because it is very unclear how the designation of habitat will inform actual land use and land management decisions. Developments in other jurisdictions, especially Vermont, have been noted in Jeffrey L. Amestoy, *Wildlife Habitat Protection Through State-Wide Land Use Regulation*, 12 HARV ENVTL. L. REV. 45 (1990).

68 *See* notes 51–77

69 *See, e.g.*, DAUBENMIRE, *supra* note 46; F.C. DOBLER & J.R. EBY, WASH DEP T FISH & WILDLIFE, AN INTRODUCTION TO THE SHRUB STEPPE OF EASTERN WASHINGTON: A BRIEF APPRAISAL OF CURRENT KNOWLEDGE AND NEED (1990).

about 40 percent, remain, and much of that is in a degraded condition as a result of the grazing history described above.[70] Although estimates of the scale of loss of meadow steppe are unavailable,[71] the general pattern of supplanting grassland by pasture and cropland suggests that the conversion from meadow to agricultural land has in all likelihood been more extensive than the conversions of shrub-steppe.

Although there are substantial, contiguous stretches of steppe land vegetation on federal and state lands,[72] the great bulk of what remains of Washington's steppe land habitat lies on private ground in separate holdings. Without the willingness of those who own it, however, the land is unlikely to retain or improve its value as habitat.[73]

B. Early Habitat Efforts in Washington's Columbia Plain

There is a final component of the history of the Columbia Plain necessary to understand current efforts to restore something of its lost habitat—the fate of the first habitat project begun in 1946 to remediate the great losses of native cover.[74] The lesson of that project has had a lasting effect on the Wildlife Department's approach to habitat work on private lands.

Following the end of the Second World War, there was an intense period of clearing ground for wheat production. The land clearing was wholesale and often indiscriminate. Ground unsuitable for farming was cleared along with the rest. The Game Department, as it was then known, in cooperation with the U. S. Soil Conservation Service,[75] began an effort to establish hundreds of islands of habitat in the areas where conversions to farm land were occurring, operating using funds provided through the Federal Aid to Wildlife Program under the Pitman-Robertson Act.[76]

The project focused on terrain unsuitable for farming. The Soil Conservation Service identified ground marginal for farming because of its soils or topography, and the Game Department determined the suitability of those marginal sites as wildlife habitat.[77] Under the program, landowners would enter into property agreements with the Game Department which provided that, in exchange for farm subsidies, farmers would protect any native cover that remained on the sites selected for protection, and not interfere with any new plantings made by the Department.[78] Those agreements were established at a time when the Conservation Service maintained a significant measure of influence over the farmer's use of his land because crop subsidies and other support programs were tied to the landowner's compliance with an approved farm plan.[79]

70. *See, e.g.*, text accompanying notes 84 – 87, *infra*.

71. *See* WASHINGTON STATE MANAGEMENT PLAN FOR SHARP TAILED GROUSE, *supra* note 27, at 34.

72. *See id. See also*, WASHINGTON STATE MANAGEMENT PLAN FOR SAGE GROUSE, *supra* note 27, at 22–33; W.T. PEDERSEN, WASH. DEP'T GAME, SAGE GROUSE STATUS, DISTRIBUTION, MOVEMENT, SEASONAL USE OF HABITAT, AND HABITAT STATUS IN EASTERN WASHINGTON, FEDERAL AID TO WILDLIFE RESTORATION PROJECT W–70–R–21, STUDY VI (1982).

73. The extent of private ownership of remaining healthy habitat is suggested by the ownership of lands that lie within the present ranges of the Sage Grouse and the Columbian Sharp-Tailed Grouse. These species depend, respectively, on intact stretches of shrub-steppe lands, and on intact stretches of shrub-steppe or meadow-steppe lands. 62% of the present range of the sage grouse in Washington lies on private land, with 18%, 11% and 6% respectively, lying on lands administered by the United States Army, by the state Department of Natural Resources, and the state Department of Fish and Wildlife. Eighty percent of the present range of the Columbian sharp-tailed grouse in Washington lies on private land and the only government holder of more than 5% of the remaining range is the Confederated Colville Tribes with 12%. The range and population of each species has been severely reduced in Washington. *See id. See generally* PEDERSEN, *supra* note 72.

74. A brief description of this early habitat project appears in JACK ADKINS, WILDLIFE MANAGEMENT DIV., WASH. DEP'T GAME, UPLAND GAME HABITAT DEVELOPMENT EVALUATION 1–5, UPLAND INVESTIGATIONS COMPLETION REPORT FOR PROJECT W–70–R (Sept. 1980), but I am chiefly indebted to Ted Johnson, Habitat Development Manager of the Washington Department of Fish & Wildlife for the full account of the project he provided me. Interview with Ted Johnson, Habitat Development Manager, Wash. Dep't Fish & Wildlife (Oct. 18, 1995) (hereinafter Johnson Interview). Much of the information set forth in Part II.B., *infra*, was gathered during that interview.

75. The Soil and Conservation Service was re-constituted as the Natural Resource Conservation Service in 1994. *See* FEDERAL CROP INSURANCE REFORM ACT OF 1994, Pub. L. 103–354, § 246, 108 Stat. 3178 (codified at 16 U.S.C. § 6962 (1994)).

76. *See generally* WASH. AGRIC. EXPERIMENT STATIONS INSTIT. OF AGRICULTURAL SCIENCES, WASH. DEP'T GAME, GOOD LAND MANAGEMENT SUPPORTS WILDLIFE STATION CIRCULAR 295 (Jan. 1957)

77. A collection of essays on wildlife habitat requirements and their compatibility with sound farm management, together with instruction on the creation and maintenance of habitat structures, published jointly by the USDA Agricultural Experiment Stations in Washington and the Washington Department of Game, evokes the project as it was then perceived. *See id.*

78. *See id.*

79. *See, e.g.*, *Determination of Acreage and Compliance*, 7 C.F.R. pt. 718 (1996). The approach embodied there has since supplanted by *Determination of Acreage an Compliance*, 7 C.F.R. pt. 718 (1997), and *Production Flexibility Contracts for Wheat, Feed Grains, Rice, and Upland Cotton*, 7 C.F.R. pt. 1412 (1997). The new provisions were adopted in conformity with the 1996 Farm Bill. The new version of part 718, together with new part 1412, substitutes for the former strict acreage requirements, a flexible scheme for planting and a relaxed set of rules for reporting of farm production. For a fuller explanation, see 61 Fed. Reg. 37544 *et seq.* (1996).

From 1947 to 1961, over 725 sites comprising 990 acres were identified and established on 330 cooperating farms under this program, and more than a million and a half shrubs and trees were planted on those sites.[80] After 1961, the program atrophied. Very few new plantings were made either on existing or on new sites, and the Game Department shifted much of the staff formerly committed to the farmland habitat program to other, non-habitat activities.[81] A study done in 1980 to determine the status of the sites and of the plantings found that only six and one half percent of the planted shrubs and trees were still surviving on thirty four percent of the land area that had been planted.[82]

The disappointing results were in part attributable to the difficulty of obtaining suitable nursery stock for the harsh conditions of the Columbia Plateau. There were few nurseries providing conservation stock, and the need quickly to establish cover of some kind to guard against erosion and to shelter wildlife on the newly cleared lands created intense pressure to use whatever plant stock was available. The Game Department teams experimented with unproven nursery stocks in the hope that some would thrive. Stresses on the new plantings were severe in the harsh and unstable conditions of an arid landscape in the midst of wholesale transformation, and there were many failures. Even with improved knowledge of appropriate nursery stocks, however, some sites failed for unknown reasons. In such a hard country, minor features of topography and minor differences in available moisture or in orientation to the sun can be significant. When habitat efforts are restricted to the bits and pieces that remain amidst wholesale clearances, success may depend on a thorough understanding of elusive local conditions, which may come too late.[83]

Equally important as a cause of failure was destruction of the sites by landowners.[84] Many of the sites were farmed over during periods of rising farm commodity prices, or were heavily grazed. Areas with water and shade became handy oases where cattle sheltered, calved or browsed. Such site destruction happened frequently when land changed hands. The Game Department habitat agreements were not noted in title documents or land records, and unless successor owners were informed of habitat arrangements by the previous owner, the seller, or the Wildlife Department, they might not learn of them. Contacts were not maintained with landowners nor were transfers of ownership well monitored, and many of the sites were lost.[85]

In addition, routine farming activities took a heavy toll on the habitat sites, especially the burning of adjacent stubble fields and the continual aerial spraying of pesticides and herbicides on neighboring crop land. The problem of aerial spraying remains particularly troublesome to this day. Such spraying is the quickest and cheapest method of weed and insect control on the large fields typically farmed, and even when responsibly conducted, has a devastating effect on adjacent wildlife habitat belts. It is impracticable to shut off sprayers as they pass over the small draws or coulees between fields where habitat is most likely to remain. Even in areas that do not receive direct hits, wind drift does significant damage. The heart of the problem is that routine farming practices, even by property owners with the best of intentions, are harmful to residual habitat.[86] The plantings from that first era of habitat work that have survived have become a source for seeds that may prove to have a higher tolerance to sprays and herbicides. The more certain legacy of aerial spraying has been the frustration of much habitat work.[87]

The 1980 study of the failed fifteen-year habitat project acted as a catalyst within the Wildlife Department for thinking about how to conduct future habitat projects.[88] The most important question was whether meaningful work could be done on or around farmland given the absence of active control over the sites. The limited successes of the fifteen-year effort pointed in conflicting directions. On the one hand, the Department agreed that an important reason for the failure of habitat sites was its own failure to maintain contact with the landowners where sites had been established.[89] Conversations between Wildlife Department staff and landowners indicated that landowners felt that the Department had simply

80. *See* ADKINS, *supra* note 74, at 1–5.

81. *See id.* at 4.

82. *See id.* at 1.

83. *See id. See also* Johnson Interview, *supra* note 74.

84. *See* ADKINS, *supra* note 74, at 4–5; Johnson Interview, *supra* note 74.

85. *See* ADKINS, *supra* note 74, at 5.

86. *See id. See also* Johnson Interview, *supra* note 74.

87. *See* Johnson Interview, *supra* note 74.

88. *See id. See also* Interviews with Dan Blatt, Manager of the Upland Wildlife Restoration Program (July 11, 1995 & Mar. 21, 1996).

89 *See* ADKINS, *supra* note 74, at 5. The account in the text following this note is based in large part on interviews with Upland Wildlife Restoration Program staff, conducted at various times during the Spring, Summer and Fall of 1995 (hereinafter UWRP Staff Interviews). The perception that the failure to maintain adequate contacts with landowners caused the loss of earlier habitat installations is nearly universal among Department staff, a product of their reading of the ADKINS report, *supra* note 74, and of their own exchanges with landowners.

abandoned the effort to maintain habitat sites once they had been created.[90] Where wildlife officials in particular localities maintained their contacts with landowners and established relations with successor owners, losses were less severe. In some areas, wildlife staff continued to check on and protect established areas as best they could. Oftentimes, little more was being accomplished than maintaining good relations with landlords, keeping them aware of the presence of the sites, and hoping that the cumulative impacts of spraying, stubble fires, and other routine farm activities would not utterly destroy the plantings. Those efforts to maintain a minimal presence were often successful in stopping people from tearing out plantings, and the sites that survived became available for a second and third round of plantings with hardier stocks and with plant materials chosen with a better understanding of the landscape and of the needs of wildlife.[91] For example, dryland evergreens, omitted in the first rounds of plantings, were put in to provide year round cover and protection for wildlife that the earlier deciduous plantings had failed to provide. Those salvaged sites became an important foundation for the network of habitat envisioned by the UWRP. Also, the awareness that the failure to maintain ongoing relations with landowners had undermined years of effort and cost much goodwill became the foundation of a commitment to an active program of landowner relations.[92]

There was, however, another reaction to the failures of the first habitat program that emphasized the inherent problems of situating habitat sites on private land or in the proximity of incompatible agricultural activities. So long as there was a significant risk that a habitat project might not survive due to changed management on the private land, or due to the spillover effects of private land management, some argued that conservation and preservation efforts would be better targeted at the large, relatively well-insulated wildlife management areas under state control.[93] The key to effective work lay, in that view, in effective management of existing state lands and in acquiring more land.[94] By contrast, the advocates of continuing efforts on private land emphasize the structural benefits of extending habitat to areas of the state where private lands predominate, because unless something is done to promote habitat on private land, large areas of the upland interior will be bereft of wildlife. The tension between the two sets of views persists within the Wildlife Department and is a source of continuing debate as to the best course of action for protecting the wildlife habitat that remains.[95]

III. The Upland Wildlife Restoration Program

A. Origins

It was against the background of the first generation of habitat efforts described above and the long history of habitat loss in the Columbia Plain that the UWRP came into being in 1989.[96] The Program arose at a time when the Wildlife Department had begun to focus anew on the destruction of habitat and to adopt policies meant to promote improvements in the quality and amount of habitat for Washington wildlife.[97] That commitment to general ecosystem health is reflected in revisions to the Washington Game Code dating from that time. New statutory language made plain a management emphasis on the protection of whole natural systems and added a new and sweeping definition of "wildlife."[98] The welfare of

90. Johnson Interview, *supra* note 74. *See also* UWRP Staff Interviews, *supra* note 89.

91. *See* UWRP Staff Interviews, *supra* note 89.

92. Johnson Interview, *supra* note 74. *See also* ECOSYSTEM CONSERVATION PROJECT REPORT, *supra* note 18, at 2.

93. *See* ECOSYSTEM CONSERVATION PROJECT REPORT, *supra* note 18. The Wildlife Department has under its jurisdiction a number of large, contiguous Wildlife Management Areas in Washington's upland interior. Acquisition efforts began in the late 1930s and to date almost 840,000 acres have been acquired. *See* WASH. DEP'T FISH & WILDLIFE, WILDLIFE AREA AND DEPARTMENT LAND DESCRIPTIONS (Apr. 1997) (Draft Report). Many of these lands are suffering the long term effects of past overgrazing, and some lie on lands where farming efforts failed in the past. *See id. See also* UWRP Staff Interviews, *supra* note 89. The remediation needs of these lands are acute. The decision to do work on private land involves an application of resources there that might otherwise be directed to improve state-owned lands. *Id.*

94. *Id.*

95. *Id.*

96. WASH. DEP'T FISH & WILDLIFE, WASHINGTON STATE ECOSYSTEM CONSERVATION PROJECT SUMMARY (1990).

97. It was an approach that had become well established in professional wildlife management circles, prompted in part by an evolving understanding within the profession, and in part by the concerns of new constituencies for wildlife. *See, e.g.*, WASH. DEP'T FISH & WILDLIFE, GOALS, POLICIES AND OBJECTIVES (Feb. 2, 1995).

In 1989, the Wildlife Department also initiated its ambitious Priority Habitats and Species project to identify, map, and recommend protective measures for the conservation and perpetuation of, wildlife and habitat in Washington. *See* WASH. DEP'T FISH & WILDLIFE, PRIORITY HABITATS AND SPECIES PROGRAM (Jan. 1996).

98. "Wildlife" means all species of the animal kingdom whose members exist in Washington in a wild state. This includes, but is not limited to mammals, birds, reptiles, amphibians, fish and invertebrates. The term "wildlife" does not include feral domestic mammals, the family Muridae of the order Rodentia (exotic rats and mice), or those fish, shellfish, and marine invertebrates classified as food fish or shellfish. The term "wildlife" includes all stages of development and the bodily parts of wildlife members. *See* 1980 Wash. Laws, ch. 78, § 16, (codified at WASH. REV. CODE 77.08.010 (16) (1996)).

Amendments to the code in 1987 made explicit the department's duties to preserve, protect, and perpetuate all wild fauna, and a 1990 amendment retitled the code the "Wildlife Code of the

virtually all living creatures existing in Washington in a wild state became a policy priority.[99] It was during that period that policies and objectives set for the department by the state Wildlife Commission came to emphasize the protection and improvement of habitat as the linchpin of the department's management efforts.[100] There was, moreover, a new awareness that protection and improvement of habitat depended on the department's ability to affect private lands and lands managed by other governmental bodies.[101] As noted above, the ability to act on these commitments depended on funding available throughout the Wildlife Department's traditional role as a game management agency.

B. The Private Farmlands Project

The Farmer Cooperative Project is the heart of the UWRP It was conceived to revive the best elements of the original Pitman-Roberts funded habitat projects initiated in the late 1940s, and to integrate these projects into a landscape-wide approach to habitat recovery.[102] Thus far, some 420 landowners in the upland interior, with aggregate land holdings of over 590,000 acres, are participating in these habitat projects.[103] Roughly half the sites are holdovers from the first Pitman-Robertson project begun in the 1940s.[104] Those sites, together with newly recruited parcels, comprise roughly 10,000 acres of actual habitat, and in some areas, notably Walla Walla and western Whitman Counties, are concentrated thickly enough to produce useful linkages among sites.

The Farmer Cooperative Project is using two structures to recruit landowners to make sites available for habitat work, one based on uncompensated participation, the other based on the payment of direct compensation.[105]

1. *Uncompensated Participation*

The appeal of the first program, where no compensation is paid to participating landowners, is striking. Trespass is rife in rural areas, especially during the hunting seasons. It is a common complaint of rural landowners that posting one's land is ineffective against determined trespassers. "No Trespassing" signs keep out the law abiding but have little effect on scofflaws. During hunting seasons the difficulty of patrolling land far removed

State of Washington," abandoning the "Game Code" label. *See* 1990 Wash. Laws, ch. 84, § 1.

The framework created by the present Wildlife Code maintains a commitment to recreational hunting in spite of its concern with the fate of wildlife. For example, the legislative findings accompanying the Code contain the following statement

> We all benefit economically, recreationally, and aesthetically from [fish and wildlife] resources. Recognizing the state's changing environment, the legislature intends to continue to provide opportunities for people to appreciate wildlife in its native habitat. However, the wildlife management in the state of Washington shall not cause a reduction of recreational opportunity for hunting and fishing activities The paramount responsibility of the department remains to preserve, protect, and perpetuate all wildlife species Adequate funding for proper management, now and for future generations, is the responsibility of everyone

WASH. REV. CODE § 77.04.020 & 77.04.055 (1987) (legislative findings and intent accompanying ch. 56).

The language strives to balance the growing public sentiment for non-consumptive enjoyment of the state's wildlife patrimony with continuing commitment to the sports of hunting and fishing. The Code's categorical language that wildlife management not reduce opportunities for sports hunting and fishing when not biologically justified indicates the concern among the department's traditional hunting and fishing constituencies that those activities not be prejudiced by new priorities for wildlife management.

99. *See id.*

100. *See supra* notes 97–98.

101. *See id.*

102. *See* Interviews with Dan Blatt, *supra* note 88

103. *See* Appendix C. *See also* ECOSYSTEM CONSERVATION PROJECT REPORT, *supra* note 18.

104. *See generally id. See also* text accompanying notes 75–77, *supra*. These survived in spite of a general pattern of loss due to a combination of the diligence of local wildlife managers and the fact that they lay in areas whose topography was less favorable to the aggressive expansion of cropland that occurred elsewhere.

105 The text following this note is based largely on the results of a survey of landowners participating in the Farmer Cooperative Project, conducted by the author, and on interviews with staff of the Upland Wildlife Restoration Program.

In Fall 1995, I circulated a fifteen-question survey to all landowners participating in Wildlife Department-sponsored public access or habitat projects in six contiguous counties with lands lying in the Columbia Plain (Asotin, Garfield, Columbia, Walla Walla, Whitman and Lincoln Counties). Landowners were asked the reasons for their participation, whether they received compensation of any sort, the nature of their expectations about the program, and their level of satisfaction with the Wildlife Department. Additional questions were asked about length of tenure on the land and about attitudes towards wildlife and wild habitat. A self-addressed stamped envelope was included with the surveys and a reminder letter was sent three weeks after the first distribution of the surveys. Of the 236 questionnaires mailed, 122 were completed and returned. Of the returned questionnaires, 69 were returned by landowners participating in one or more habitat projects, and 53 were returned by landowners providing public access to their land but not participating in habitat projects My goal in conducting the survey was to gather a reasonably broad base of anecdotal commentary by landowners on their own circumstances and on the habitat work in which they participated The volume of the responses and the completeness of the answers I received were striking. Some landowners sent family histories, one sent photographs, and many used the survey to convey their feelings about their land and about themselves as farmers making a living on the land. The narrative that follows attempts to capture the substance of their replies. A copy of the survey questionnaire is available upon request.

from a landowner's residence or base of operations can result in the creation of "poachers' paradises" frequented by intruders respectful neither of property boundaries nor of game regulations. The Wildlife Department has thus offered help in controlling trespass as a means of gaining access to do habitat work.

The usual arrangement is for the landowner to allow habitat work and regulated public hunting access to his property in exchange for the posting of official signs on his fence lines and gates, and for some patrolling of his property during the hunting seasons. Pitman-Robertson funds are applied directly to the cost of habitat plantings on lands enrolled in the program, with no money going directly to the landowner. In most instances, the initial contact is made by the landowner who has heard about the program by word of mouth and who contacts the program field office in the locality. The property signs, the creation of a regulated structure of public access, and the conduct of habitat work which often has incidental benefits to the property owner, have proved an attractive package for landowners, who are also persuaded that patrolling, even by thinly-spread wildlife agents, is a more effective deterrent to trespass than other available alternatives. The great majority of the habitat projects under the Farmer Cooperative Project proceed under this structure.[106]

The program has been an effective tool for gaining access to land for habitat projects. Hunting is a common activity in the localities where the program is operating, and trespassing is a persistent problem. The program has enjoyed substantial support in the localities where it has been undertaken because it has been coordinated with local conservation districts' programs and has attracted the support of private conservation groups within the communities. The most typical form of support is volunteer work parties by local groups such as 4-H clubs, chapters of the Future Farmers of America, and local chapters of sportsmen clubs. In addition, sportsmen clubs have at times made substantial contributions of money and equipment.[107]

While some landowners' commitments are based on the improved conditions for wildlife, the success of the program among landowners depends most on the landowners' conviction that the department can help in controlling unauthorized access to their land. It is likely that some landowners might be happier yet if offered help in controlling the problem of trespass in exchange for access for habitat work, but without the additional requirement of public access. The fact Pitman-Robertson monies are used to fund the project, and the continuing statutory commitment of the Wildlife Department to the promotion of recreational hunting and of other public access to outdoor recreation opportunities, means that access—chiefly hunting access—is a part of the package that landowners must accept.[108] The program is being relied on principally in parts of the state where hunting is common and generally accepted, and indeed where local economies are benefitted by the additional activity hunters bring in the fall and winter months. Linking hunting access to habitat work seems to have been problematic only for owners of smaller scale holdings and for property owners in the highly controlled lands of the Columbia Basin Irrigation Project. Properties determined by the Department not to be suitable for public hunting are not eligible for participation in the Farmer Cooperative Project. The Program has been most successful in range and dryland farming areas, and there have been far more requests for participation than the Department has been able to satisfy.

106. Only about 60 of the more than 400 projects under the Farmer Cooperative Project involve direct compensation to the landowner. Those payments occur through the vehicle of the Snake River Compensation Program. *See* UPLAND WILDLIFE RESTORATION PROGRAM ACREAGE REPORT (June 30, 1993).

107. The importance of traditional constituencies as an ingredient in the success of habitat and ecosystem management by wildlife departments cannot be understated. There are a number of reasons for this. The views of well-organized and alert sportsmen clubs as well as individual hunters and fishermen are highly important to the legislators from non-urban areas who have historically taken up committee assignments that impact wildlife policy. License fees paid by sportsmen are an important component in the budgets of wildlife departments and the availability of certain federal funds for wildlife depends upon the allocation of license fees to department operations. The traditional sporting constituencies provide important volunteer support for wildlife and fisheries enhancement efforts, contributing labor and money to conservation efforts. Thus, while hunting in particular may be a declining activity among the public at large, the influence of sportsmen's' groups is considerable in wildlife management circles. The sportsmen's' capacity to work as important allies of particular conservation efforts is significant. The engagement by sportsmen in habitat and ecosystem protection efforts can be an important element of their success and, in rural areas, of their perceived legitimacy.

It is also important to consider that organizations like Pheasants Forever and Ducks Unlimited have contributed some very expensive equipment to the program. In a fiscal environment where the ability of the Wildlife Department to obtain appropriations in a timely fashion for needed equipment, nursery stock, seed and the expenses of labor is by no means certain, the readiness of such groups is a significant asset.

108. Public access is not restricted to hunting access. Access for other forms of recreational enjoyment of wildlife is also contemplated, but there has been relatively little use of participating lands by such users as birders and photographers.

2. *Compensated Participation*

The second structure used in the Farmer Cooperative Project involves the use of funds from the Lower Snake River Fish and Wildlife Compensation Plan to lease for ten to eighteen years land valuable for wildlife habitat.[109] The Snake River compensation fund is structured so that in addition to the development of mitigation habitat on public lands, substantial money is available for habitat projects on private land.[110]

The private land habitat acquisition program was something of an afterthought. As originally conceived, the Snake River compensation scheme was intended to mitigate losses to game populations through the creation of game farms, and the release of wildlife for hunting.[111] That notion was abandoned, and a "Game Farm Alternative" substituted at the insistence of state wildlife authorities. Under the terms of that oddly named arrangement, Washington received a lump sum settlement to lease private land as mitigation habitat for habitat lost to the construction of dams and reservoirs along the lower Snake River.[112] Thus, a wildlife release program was transmuted into a habitat program. The lease of private lands is the main focus of the Snake River Project because much of the best riparian habitat within the boundaries of the Snake River s Washington drainage are privately owned.

Private landowners participating in the Game Farm Alternative receive one hundred dollars per acre for cropland and thirty-five dollars per acre for converted grazing and rangeland leased to the Wildlife Department.[113] In general, landowners who participate are those for whom the payment is adequate. For example, there is a substantial concentration of landowner-cooperators in the western two-thirds of Whitman County, and relatively few participants in the eastern third of that county. The eastern third of Whitman County receives about twenty-one inches of rain per year and is blessed with the extraordinarily deep and rich soils of the Palouse region. There, wheat farmers are able to produce annual crops without fallowing their land. In that area, a farm can be comparatively small and yet produce annual revenue equal to much larger farms in the more arid western two-thirds of the county. In the western part of the county, and especially west of a line running through St. John, Washington, annual average rainfall drops off dramatically, soils are thinner, and basalt outcroppings become interspersed with arable land. Wheat farmers in that portion of Whitman County need to operate their crop land on two to three year rotations and leave it fallow during the summer. In brief, because the eastern third of the county can produce 80-120 bushels per acre, the annual return per acre is such that there is hardly any participation in buy-out programs, whether under the Snake River lease scheme or under the various federal Department of Agriculture conservation programs. Every square inch of ground is farmed and there is little habitat left in the area except where farm equipment cannot venture.[114]

The Snake River mitigation program thus fills a particular niche. It allows the acquisition of habitat on sites whose production value is too high for landowners to be willing to make land available for habitat under the uncompensated Pitman-Robertson program, but not so rich as to be incapable of being bought out at the per acre reimbursement price the Program can pay. While some land owners participate in habitat projects for reasons that go beyond compensation, without adequate incentives, even landowners concerned with wildlife would not make the higher value land sought by the Snake River program available for wildlife. Occasionally, the inconvenience of farming some isolated plots of high-yield land has led landowners to include such land in the program, but the more common experience is that of a landowner who has calculated that the Snake River payments are adequate compensation for lost crop values and has decided to participate on that pragmatic basis. In exchange for an assured payment per acre, the farmer neither has to plow, apply chemicals that might be required for weed control, or otherwise incur expenses beyond the initial ground preparation required for a habitat planting. And the amount paid to the farmer under the Snake River Program is

109. *See* SATHER-BLAIR ET AL., *supra* note 34.

110. *See supra* note 31.

111. *See* SATHER-BLAIR ET AL., *supra* note 34, at 2–4.

112. *See id.*

113. The information relied on and presented in Part III.B.2 is based on conversations with Upland Wildlife Restoration Program Staff. *See supra* notes 45 & 89.

114. These geological and topographical realities have had a profound impact on the extent to which land has been made available for habitat restoration efforts and on the suitability of land for agriculture. One of the implications of this pattern is that the opportunity for using techniques such as the Department of Agriculture's Conservation Reserve Program and other voluntary landowner arrangements to accomplish habitat goals may be foreclosed by the unwillingness of landowners to participate for understandable economic reasons. That means either that whole stretches of the landscape must be abandoned as sites of active engagement in habitat efforts or that other, more aggressive strategies, perhaps of doubtful political feasibility, must be contemplated. Another limiting factor is that the capacity to buy rich private farm land will be limited by its cost.

significantly higher than the average payment per acre under the Conservation Reserve Program. The number of requests by landowners to develop habitat on their farms and ranches has currently outstripped the agency's ability to respond.

One important topic of negotiation with respect to Snake River lease sites is the size and dimension of the land that will be included in the lease. Generally, it is the case that the department seeks to minimize the acreage that does not have first rate potential as a habitat remediation site. Sites are evaluated for their intrinsic value as well as for the existence of wildlife habitat in the immediate area. The goal is to establish sites that are not only valuable in their own right, but which will also support existing landscape elements, so that both acquired land and surrounding land are more viable as habitat. An additional criterion for leased sites is that there be a reliable year-round supply of water in the immediate vicinity of the site. In general, the strips of land immediately adjacent to water courses best fit the profile of high-quality habitat, and field agents try to bring in as much riparian land as possible. Adjacent upland acreage with lesser habitat value is included only to the extent necessary to buffer riparian zones and to accommodate legitimate landowner concerns. For example, landowners may wish to maintain a straight boundary between a leased habitat site and adjacent cultivated fields so as to avoid a meandering course for farm machinery working along the edge of the habitat site. Such accommodations may result in acquisition of some less-than-optimal habitat, but are necessary. In the best of circumstances, the payment made to landowners is consistent with the value of the site as habitat, and lesser ground which is necessarily included in the lease package will not receive the same compensation as prime riparian zones. In practice, negotiations between the Department and participating landowners sometimes lead to the payment of the premium price for all included acreage.

C. The Vulnerability of Voluntary Participation

The Snake River program establishes only a ten- to eighteen-year lease interest in participating properties. The uncompensated habitat projects can be terminated at any time. The Wildlife Department has attempted to address the lack of permanence of both arrangements in a number of ways.

The Wildlife Department is operating under the assumption that habitat sites on arable ground are highly vulnerable to being returned to crop land at the end of lease terms. For that reason it encourages participating landowners to permit the planting of trees and of shrubs in addition to grasses and forbs. Landowners are significantly less likely to remove trees and shrubs, both because of the difficulty and because of the value of the plantings in stabilizing stream banks and preserving healthy stream structure. It is an imprecise and hopeful tactic, to be sure, but the department is relying on the likelihood that a good number of landowners, recruited in part because they are disposed to value ecosystem health, will be less inclined to view the end of the lease arrangement as a signal to return to earlier use patterns. Landowners are screened to determine whether their participation is based in part on a concern with improving the health of their land and maintaining a place for wildlife on their property. However, expressions of subjective preferences are not by themselves enough to assure that habitat sites will survive future market pressures, or to assure that habitat sites will survive changes in ownership. The use of conservation easements, an obvious expedient, has not been adopted because the cost of maintaining easements would approximate the cost of the annual lease payments under the Snake River structure. It is unclear whether the Wildlife Department will have cash resources in future years to maintain the structure of habitat now being created. Inevitably, some relationships with landowners will not survive the end of the payment period and some landowners participating on a non-compensated basis will fall away, but the Department is hoping that the large base of participation it has achieved will leave in place a good distribution of habitat sites even in the face of the losses that are sure to occur.[115] The large number of landowners who are participating without compensation may help in realizing that hope.[116]

One of the Department's main tools for maintaining good relations with landowners is the creation of a culture of participation among landowners. Part of that effort, as noted, is the recruitment of landowners who care about ecosystem health and wildlife. Other tactics include the use of attractive signs to indicate a landowner's participation, and the careful cultivation of landowner and community

115. The lease contracts under the Snake River Program penalize landowners who cancel their leases before the running of the ten-year period. In the event of early termination, all payment made to the landowner, together with the value of improvements made to the land, are subject to forfeiture, although the Wildlife Department has adopted the policy that so long as plantings are left in place for the full term of the original lease agreement and are not degraded in a fashion that materially reduces their value for wildlife, canceling landowners will forfeit only the lease payments attributable to the canceled portion of the lease.

116. *See* UPLAND WILDLIFE RESTORATION PROGRAM ACREAGE REPORT, *supra* note 104.

support through newsletters, tours of sites, and other public events.[117] The landscape itself is thereby reshaped in the eyes of its owners and those who live in it. The countryside comes to be perceived by those who live there and who have the power to shape it as a place where habitat is preserved and where landowners are actively engaged in its preservation. The landowner who drives the roads of the county and sees the signs showing his neighbors' participation in the UWRP will see not only a web of interacting habitat projects but a web of participants and of participation. Action by wildlife management personnel is therefore important in defining a sense of community, focused on the fate of wildlife. Local communities can thus be reshaped by their participation in a habitat recovery project.

The appeal to the sense of stewardship that many landowners profess has produced some instances of breathtaking landowner enthusiasm for the cause of wildlife and habitat. Some landowners, once they have seen the transformations brought about by the initial Wildlife Department plantings have joined in the effort wholeheartedly, asking how the sites might be improved and extended, and expending their own resources.[118] Such extraordinary commitments are rare, but they occur, and become part of the structure of the landscape and part of the way that neighboring landowners see each other. Even though a landowner's sense of stewardship alone might not be enough to cause that landowner to make his land available for habitat work, such an altruistic bent does seem to reduce defections from the program when it is cultivated properly.

In summary, the Farmer Cooperative Program has succeeded in attracting substantial voluntary landowner participation in habitat efforts in two different circumstances. The first is the landowner who is concerned with trespass or who is otherwise willing to dedicate non-productive land to habitat work on an uncompensated basis. The second is the landowner who is willing to accept compensation for a fixed-term conversion of productive land, typically in riparian zones, to conservation use. Neither approach assures permanence, but each has been successful in holding on to and expanding habitat possibilities that would otherwise certainly be lost. If the projects can be sustained, they may come to constitute elements of more extensive habitat networks in the future.

The habitat value of sites varies greatly under both the compensated and uncompensated parts of the Farmer Cooperative Program. In the dry lands, the very best of remnant habitat and the most secure refuges for game and non-game species alike correspond closely to riparian zones, and to the pockets of shrub and woodland that have survived amidst the crop lands. The Farmer Cooperative Program has therefore placed a premium on bringing into the program land that lies along streams and in wooded or shrubbed belts. Some stretches of the country, however, present little but cultivated fields. In order to establish a habitat presence in those areas, sites whose value as habitat is incomplete, such as islands of erodible or stony ground amidst the fields, have been included. The motivation for including such lands, which are sometimes distant from natural water sources and other significant habitat structures, is based in part on a desire to establish and maintain a presence of some sort in the stretches of country where there is little but cultivated ground. But it is also true that such sites, once planted in forbs, grasses, low cover, and perhaps improved by simple structures to collect and hold rain water and snow melt for use by wildlife, provide valuable short-term resting and feeding stations in an otherwise bare landscape. These would therefore be useful to wild creatures temporarily pressed from better habitat by short-term disturbances.

IV. The Farmland Wildlife Project

The difficulty of maintaining wildlife habitat in a landscape transformed by farming is nowhere better illustrated than in the Department's Farmland Wildlife Restoration program, situated on lands within the federal Columbia Basin Irrigation Project.[119] The CBIP lies within a great westward arc of the Columbia River, known locally as the Big Bend, and is supplied by water drawn from Lake Franklin D. Roosevelt, the reservoir impounded by the Grand Coulee Dam.[120] The CBIP lands were formerly shrub steppe, but by the time irrigation was introduced, had already been significantly altered by grazing and a period of failed attempts to establish dryland farms during the early 1900s.[121] Farmland during those years was cleared, cropped, and finally abandoned for use as marginal rangeland.[122] The dryland farms had depended on mois-

117. *Id.*

118. Field visit with department staff to the Meiner Place in Walla Walla County. For example, a broad swale where the landowner had formerly grown wheat and kept cattle has been converted into an astonishingly rich set of plantings that includes mixes of grasses, forbs and clovers.

119 *See* COLUMBIA BASIN PROJECT, IRRIGATION BLOCKS, ACREAGES AND FARM UNITS, COLUMBIA BASIN PROJECT, 1948–1987 (Jan. 1987) (hereinafter CBIP)

120 *See id. See also* PITZER, *supra* note 22, at 267–331.

121 *See* PITZER, *supra* note 22, at 267–331

122 *See id.*

ture stored in the soil, and they failed when that moisture, which had accumulated over many years, was not naturally replenished at a rate adequate to support dryland farming.[123] The impetus for the CBIP was to reclaim an area of fertile soils, degraded by the aftermath of the failed dryland farms.[124] The great bulk of irrigated lands within the project area first received water in the years 1952-67 There are currently 557,000 acres of irrigated cropland served by the CBIP[125]

The CBIP transformed the Basin landscape through the creation of irrigated farmland and a raising of the water table, creating numerous seep lakes and wetlands.[126] The first generation of irrigation technology, characterized by unlined dirt ditches and gravity delivery systems controlled by headgates, produced a significant amount of seepage onto lower lying ground near farm fields. This seepage sustained a wide variety of grasses, sedges, trees and shrubs that otherwise would not have survived in the arid basin environment. The creation of this incidental habitat, combined with the sugar beets and corn common in the basin through the 1970s, supported a bonanza of farmland wildlife, including the introduced ring-necked pheasant.[127]

Wildlife flourished because of the irrigation seepage and the crops prevalent within the basin project at that time. After the mid-1970s, changes in crop composition and improvements in irrigation technology, and the continuing development of the region, began to undo the conditions which had first been so amenable to wildlife.[128] The movement away from sugar beets and towards potatoes, wheat, alfalfa, dry beans and asparagus meant that the cropland itself, which once provided substantial amounts of cover through much of the year, was now bare for much of the year.[129] The presence of cover as a by-product of agricultural activity is especially important in the irrigation blocks, where every square inch of irrigatible ground is in crop. Unless cover for wildlife exists as an incidental feature of the crop, or as a product of farming operations, it will not exist at all. That is so because the water charges for irrigation units must be paid for the entire unit whether or not the unit is completely planted, and whether or not the water is actually used.[130] The choice to leave land rough comes at a cost to the operator. The high economic returns on irrigated land make it hard for most operators to forego those returns in exchange for providing wildlife habitat.

The institution of more efficient water delivery methods has had an impact on the habitat artificially created by the bringing of irrigation water. The lining of ditches and the use of technology that allows for more precise applications of water has ended the substantial incidental benefits for wildlife provided by unlined ditches and leaky headgates. The impact of the new irrigation technologies has been twofold, greatly reducing incidental water flows to habitat areas and expanding the irrigable ground. The center pivot and wiper irrigation systems are able to march over uneven ground, which cannot be serviced by gravity-fed systems, and can reach into field corners and other formerly hard to reach ground. Field corners and other fringe areas that might once have functioned as shelter zones for wildlife are now capable of being planted, and even those corners which do remain open provide less habitat area because of the greater efficiency of water application.[131]

Water and hydroelectric power have made the area a center not only of agriculture and crop processing but of other industry.[132] Driving through the area, the relatively high density of population, the expansion of residential development, and the number of industrial installations is striking.[133]

The Farmland Wildlife Project arose from the hope that, despite the development of the Basin, the flourishing farmland wildlife populations that had accompanied the first decades of irrigation there might be restored.[134] The prospect of doing so

123. *See id.*

124. *See id.*

125. *See id.* By the mid-1990s 550,000 of the originally envisioned 1,029,000 acres had received irrigation water. Only 47,318 acres came under irrigation after 1968. *See id.* at 313.

126. *See id.*

127. *See* ECOSYSTEM CONSERVATION PROJECT REPORT, *supra* note 18.

128. *Id.*

129. For an account of market conditions that produced the shift in crops, see PITZER, *supra* note 22 at 323–24.

130. *See id.*

131. Water seepage onto acquired sites can as easily be a disadvantage as an advantage. Run-off from irrigated land keeps some lower-lying sites so wet that new habitat plantings and weed control are difficult to accomplish. In addition, the water deposited on such sites is often salty and contains polluting dissolved solids.

132. *See* ECOSYSTEM CONSERVATION PROJECT REPORT, *supra* note 18.

133. The Growth Management Act applies to Grant County and is the only significant legal structure directing growth. *See supra* note 67. The Grant County commissioners are attempting to limit the expansion of development on sites smaller than five acres, but the pressures for rezoning are acute and in any case, the control of smaller developments will not address directly the impacts of changes in irrigation technology and the pressures for industrialization caused by the availability of cheap power and water. *See id.*

134. *See id.*

seemed all the more compelling because terrain unsuitable for agriculture and suitable for habitat surrounds and intermingles with the irrigation blocks. Some of that ground is low-lying wetland, a result of the general raising of the water table, and some consists of shrubby broken uplands and coulees.[135] Much of it is publicly owned, managed by the Bureau of Reclamation, the U.S. Fish and Wildlife Service, or the State of Washington, and it lies in close proximity to irrigated farmland.[136]

The Farmland Wildlife Project contemplated purchase of a structure of permanent habitat sites ranging from one to ten acres, standing in close enough proximity to each other so that separate wildlife populations situated on particular sites could interact with neighboring populations.[137] A priority was placed on purchasing sites already in the desired cover and sites adjacent to landowners who might be willing to lease some portion of their ground as supplementary cover and as buffer zones for the core sites.[138] The object was to create interlocking networks of permanent cover, feeding cover, and nesting cover for a number of species and individual populations of farmland wildlife.[139] The destruction of such cover as the result of the expansion and refinement of irrigation technology and of shifts in crop choices had undermined a characteristic feature of healthy ecosystems—overlapping and interacting populations of wild creatures.[140] While food and water, the other critical habitat components that determine the success of any wildlife species, were still available, there were few areas of shelter capable of supporting viable populations.[141] The areas of shelter that survived were widely scattered, so that both the number of individual populations and the potential for interactions among populations were greatly reduced.[142]

The decision by the Wildlife Department to purchase its own land, rather than placing habitat sites on private land, was based on the failures of an earlier program began in the 1940s and 1950s to establish habitat on private land in the Basin.[143] In the eyes of the Wildlife Department, the fundamental conditions that had produced the earlier failures were inseparable from farming in the Basin and could not be addressed by a program dependent upon leasing private land.[144] Those conditions included farmers' extreme sensitivity to market conditions in choosing which crops to plant, and a corresponding unwillingness of landowners to enter into or honor any long-term commitments that might reduce their freedom to respond to market opportunities. It is in the nature of irrigated crop land that it can easily be shifted to new crops.[145] The Department nonetheless assumed that if the farmland program could establish its own site and control conditions on those sites, the difficulty of doing habitat work in the Basin environment could be overcome.

The strategy to acquire key pockets of habitat was also based on the assumption that the difficulty of habitat survival in environments like the Columbia Basin Project lies in the inability to control on-site conditions on specific habitat sites rather than in the inherent difficulty of working in a highly controlled agricultural environment. Thus, although the islands of habitat would be surrounded by manicured and highly controlled cropland, the hypothesis was that so long as the habitat units had integrity and the capacity to relate to each other, the effort to create and maintain wildlife lands there should not be abandoned.

Of course, the value of sites acquired under the Farmland Wildlife Program is directly affected by neighboring land uses and by the condition of the land as the department receives it. Some sites depend on leakage from irrigation ditches as their main source of water, or require the food and shelter provided by adjoining private croplands to function properly. That dependence means that the decision by an irrigation district to line an irrigation ditch, or decisions by neighboring landowners to grow crops that offer no incidental food or cover for wildlife, can diminish the prospects of acquired habitat lands. Additionally, when neighboring

135. *Id.*

136. As part of its involvement in policy processes with an impact on upland wildlife on project lands, the Department of Wildlife has been involved in the planning process for the potential further development of the Columbia Basin Irrigation Project. A draft environmental impact statement has been completed that addresses continued development of that Project evaluating among other issues the effects of providing irrigation water to project lands not yet served. Pheasants and farmland wildlife are expected to benefit from proposed actions within the associated Fish and Wildlife Plans, as small, strategically located fee title habitat plots would be interspersed within newly created farmlands. *See generally* SUPPLEMENT TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT, *supra* note 23, at 10–1.

137 *See id.*

138 *See id.*

139 *See id.*

140 *See id.*

141 *See id.*

142 *See* ECOSYSTEM CONSERVATION PROJECT REPORT, *supra* note 18.

143 *See id.*

144 *See id.*

145 The information set forth and relied upon in Part IV, *infra*, was gathered during an on-site field interview with staff of Washington Wildlife Department (Sept. 21, 1995).

landowners sell off formerly isolated field corners for residential or commercial development, the relative quiet on which a site's effectiveness may depend may be disturbed. Songbirds may remain, but the comings and goings of people and their pets have typically coincided with a reduction in numbers of the more sensitive game species.

In addition to vulnerability to neighboring uses, the sites themselves are often difficult to restore because land that owners are willing to sell often has suffered from past uses. In the Columbia Basin Project lands, the most characteristic problems are those caused by the earlier generation of dryland farming and grazing and by irrigation itself. Weed infestation typically followed the abandonment of the dryland farms, and ongoing weed control is a cost and necessary part of restoring the habitat value of old farming and grazing land. On some sites, past irrigation practices have resulted in heavy deposits of salt and minerals. Those lands pose special challenges to the establishment of new plantings, often requiring successive replanting of salt-tolerant species until healthy stands of cover can be established.

The accommodation of habitat work to the routine land management practices of weed control boards and irrigation districts also creates special challenges. In the Columbia Basin Project, vegetation along irrigation ditch banks and ditch rows is routinely eradicated, both to protect the integrity of irrigation ditches from root damage and to avoid the use of water to sustain non-agricultural vegetation. Burning and the application of herbicides are frequent and regular methods of controlling unauthorized vegetation. On one Wildlife Department site, a major planting of shrubs along an irrigation ditch was inadvertently sprayed by a weed control party unaware that the plantings had been intentionally made by the Wildlife Department. After this episode, it became clear that active coordination was needed to protect habitat plantings against the routine land management practices of the irrigation blocks.

It was originally supposed that landowners would be amenable to selling off odd bits of land, including field corners, for the creation of pockets of habitat. Instead, the program has had difficulty finding willing sellers. One of the main reasons landowners would not sell was that they did not view the sales price for the land as adequate payment for the presumed trouble of having the Wildlife Department as a neighbor.[146] The expectation was that despite the Department's best intentions, there would inevitably be clashes over the impact of customary farming practices on the newly established habitat areas.[147] Another reason for the unwillingness to sell was that some of the field corners and waste areas which the Department hoped to acquire have high potential value for commercial or residential development, or as cropland.

The Wildlife Department proceeded by purchasing what it could, although acquisitions have been driven to some extent by availability rather than by attempting to follow the original model of a net of inter-related habitat units.[148] Twenty properties have been acquired, comprising 1,442 acres.[149] Additional acquisitions have been put on hold, in part due to budgetary constraints, but also to give the issue of acquisition a rest with landowners who have been asked to sell and who have declined.[150] The hope is that by demonstrating successful management on the sites already acquired, and especially by demonstrating the capacity to be a good neighbor on such sites, the Wildlife Department can win the confidence needed to push along the original acquisition plan.[151]

The complexities of being a good neighbor in the Columbia Basin are best illustrated by the Department's management of some of its key acquisitions. Consider the case of an eighty acre farm deeded in 1987 to the Department as a gift without stipulations as to its use.[152] The Department has entered into a sharecrop arrangement for that land under which fifty acres are cultivated, while the remainder of the land is planted with year-round cover and food plots for wildlife. Under the sharecrop agreement, the Department retains control over the crops that are planted, and over the methods of cultivation employed, and uses that control to demonstrate how a profitable farm operation can be made compatible with healthy wildlife populations. In the first years of Department ownership, potatoes were planted to recoup the cost of installing an irrigation system adequate for a working farm. The potatoes have since given way to crops more congenial to wildlife, in keeping with the Department's long-term management objec-

146. Conversation with staff of Natural Resource Conservation Service and Washington Department of Wildlife.

147. *See id.*

148. *See id.*

149. *See* ACQUIRED PROPERTIES UNDER UPLAND WILDLIFE RESTORATION PROGRAM, *supra* note 25.

150. On-site field interview with staff of Washington Wildlife Department (Sept. 21, 1995).

151. *See id.*

152. WASH. REV. CODE § 77.12.010 & .204 (1996).

tives and with its statutory duty to conduct any agricultural and grazing activities on Department-managed land in a way that enhances wildlife.[153] The sharecrop contract directs that the commercial crops planted by the lessee be congenial to wildlife, providing both food and cover and, moreover, requires that the lessee care for habitat plantings and manage his operations to accommodate the presence of wildlife.[154]

The choice not to manage the site as an eighty acre property wholly dedicated to wildlife habitat represented a balancing of a number of important factors. The Department lacked the staff necessary to operate the property on its own as a habitat site, and moreover saw the property as having potential as a demonstration project for farmers in the area.[155] Another consideration was that the Department was under some pressure, due to the vagaries of appropriations for wildlife, to manage the land in a fashion that makes the habitat work both self-sustaining economically and so that it provides surplus income and vital materials such as grass seed for projects elsewhere.[156] In the case of this particular farm, the combination of a profitable lease, control of crops and cultivation methods, the need for a successful demonstration project, and the value of sites as a source of seeds for plantings elsewhere—as well as a place of shelter for resident wildlife—produced a decision not to operate the property exclusively as a habitat site.

The value of a successful demonstration farm is substantial in an intensely cultivated landscape like that of the Columbia Basin. It is the view of many farmers of the locality that irrigable land ought to be cropland,[157] and there is a corresponding pressure on the Wildlife Department to show that it is a good neighbor by accommodating its uses to prevailing patterns.[158] One might well ask why it matters what the locals think about how the Department manages its land. However, the entire premise of the Columbia Basin Project is that the purpose of irrigation is to support intensive agriculture.[159] Against that background, the feeling among landowners that it is wrong not to use valuable cropland can be a source of friction that reflects itself in political pressure brought to bear on the department.[160] The "what-is-the-wildlife-department-doing-around-here?" question becomes a telling one, and the possibility of negative fallout, manifested both as a lack of cooperation on the ground in the locality and by the communication of hostile feelings to important legislators, can matter quite a bit. Even such seemingly innocuous and beneficial developments as a band of shrub roses along an irrigation ditch road on a state-owned farm can generate comment from neighbors because shrub roses are not a valuable crop.[161] The very appearance of habitat on land that is meant to be crop land may be interpreted as the thin end of a wedge that could force modifications of established agricultural uses and practices in the area. Justified or not, such attitudes have forced the Wildlife Department to proceed with caution and circumspection

Habitat work in the Columbia Basin Project area is unusually difficult because of the land use practices of the place and because of continuing development pressures on the land. Tucked here and there in an intensively developed landscape, the project sites can appear rather marginal. A useful perspective may be to see the habitat potential of the area not as an approximation of a functioning wild ecosystem but as an effort to maintain a few anchors for a wildlife presence. It will probably require great persistence and tact to accomplish that much.

V. The Large Acreage Projects

The main focus of this paper is on habitat projects on private lands, and on state land situated amidst private lands. This far, the article has described how the landowner-by-landowner habitat strategies of the Wildlife Department have fit themselves to improving habitat across broader landscapes It is important to note, however, that the

153. *See id.*

154. *See* On site field interview with staff of Washington Wildlife Department, *supra* note 150.

155. *See id.*

156. Three ten-acre fields of the farm are dedicated to the production of grass seed for conservation plantings. By cultivating its own supplies of seeds for such useful species as bluebunch wheat grass, Sherman Big Blue Grass and Great Basin Rye, the Wildlife Department is able to insulate itself from volatile market conditions. Seed for wild grasses and shrubs is in general expensive, and unexpected pressures on supplies can make prices prohibitive. As two examples, consider that Great Basin Rye seed costs approximately $12.00 per pound and sage brush seed typically ranges between $35 00 and $45.00 per pound. In one recent episode, competitive bidding by the federal Bureau of Land Management for sage brush seed for remediation efforts on its own lands pushed the price to $75 00 per pound. Interview with Ron Fox, Habitat Specialist, Wash. Dep't of Fish & Wildlife (April 4, 1997)

157 *Id*

158 *Id*

159 *Id*

160 *Id*

161 *See* On-site field interview with staff of Washington Wildlife Department, *supra* note 150

challenges of effective habitat work are substantial even when projects are sited on large blocks of publicly-owned land acquired specifically for habitat remediation. The Washington Wildlife Department has assembled over the years extensive land holdings managed as wildlife range and habitat.[162] The condition of the land when acquired and continuing pressures to allow non-habitat uses of the land have usually complicated the task of managing the land for wildlife.[163] Virtually any land available for acquisition will have had an earlier history of grazing or farming and will share boundaries with farming or grazing land in private hands.[164] Those conditions mean that to acquire the land is in most cases to commit oneself to extensive remediation efforts, as well as to the task of managing the land accounting for the interests of neighbors and would-be users. This final section of the article will offer two brief illustrations of those challenges, to make clear that the difficulties of the UWRP are not unique to the scale of its holding or to its focus on private lands.

A. The Okanogan Sharp-Tailed Grouse Project

The Okanogan Sharp-Tailed Grouse Project was undertaken in 1991 to enhance the prospects of the grouse and to reduce the risk that the bird would become an endangered or threatened species in Washington.[165] It is being conducted on three purchased sites aggregating 12,500 acres centered on a 9,000 acre ranch property north of the town of Omak.[166] Because of the topography and the quality of key habitat elements, the chosen sites are good grouse country, and there are small resident populations of the birds.[167] The project has as its goal the extension and improvement of habitat available to the sharp tailed grouse and associated steppe and grass land species, including mule deer.[168]

The properties, and especially the 9,000 acre Hart Ranch on which the project is centered, came to the state damaged from past ranching operations and in need of aggressive remediation efforts.[169] That state of affairs and the history of game management in the area produced a complex mixture of factors that needed to be addressed in developing a land management strategy for the main ranch property and its supporting sites.[170] First, injury to the properties' creeks and lowland meadows caused by earlier cattle grazing and hay production created a pressing need to restore lowland and streamside areas as well as the uplands more conventionally associated with the sharp-tailed grouse.[171] Native cover had long since been cleared for hay and for alfalfa fields in the riparian zones and the original grassland away from the streams had been over planted with introduced range grasses.[172] Restoration of native plant communities was considered, but a number of factors dictated another course.[173] There was first the very high cost of ground preparation and of nursery stock, together with the projected need for six to eight years of intensive management to fight off weeds on ground prepared for reintroduction of natives.[174] In addition however, the Wildlife Department determined that cattle grazing had a legitimate role in the development of the site for wildlife, and therefore decided both to maintain the hay and alfalfa fields and to allow controlled grazing in the range areas.[175] The reasons for those decisions involved a complex mixture of considerations of how best to serve wildlife habitat given the condition of the land as it was received, and the social and political climate of Okanogan County.

First, there are large numbers of mule deer in the area that are a particular source of irritation for landowners because of the damage they do to private hay stacks and orchards.[176] If those populations are to be maintained without intolerable friction,

162. *See id.*

163. *Id.*

164. *See* WILDLIFE AREAS AND DEPARTMENT LAND DESCRIPTIONS, *supra* note 44.

165. The sharp-tailed grouse populations remain at a precarious level. Ongoing monitoring of these populations seeks to avoid listing the birds as threatened or endangered. Nonetheless, the populations may reach a level at which such listing must occur. *See* SHARP-TAILED GROUSE PLAN, *supra* note 27.

166. The lands were acquired with funds from the Washington Wildlife and Recreation Coalition. *See, e.g.*, WASH. REV. CODE §§ 43.98A & 43.99 (1983); INTERAGENCY COMMITTEE FOR OUTDOOR RECREATION, WASHINGTON WILDLIFE AND RECREATION PROGRAM—HABITAT CONSERVATION ACCOUNT, *supra* note 43.

167. *See* SHARP-TAILED GROUSE PLAN, *supra* note 27.

168. *Id.*

169. *Id.*

170. *Id.*

171. *Id.*

172. *Id.*

173. *Id.*

174. *Id.*

175. When it permits cattle grazing on state game lands, the Wildlife Department must make a finding that the grazing affirmatively benefits wildlife. *See* WASH. ADMIN. CODE. § 232-12-181.

176. The information contained *infra* Part V comes in equal parts from interviews with Ron Fox, *see supra* notes 45 & 145, and Gordon Lavoy, *see supra* note 45, and from a paper prepared for the Nature Conservancy, Bertie J. Weddell, *Biology and Conservation of Sharp-Tailed Grouse, with Special Reference to the Columbian Sharp-Tailed Grouse in Washington* (Jan. 1992).

alternative food sources, high in nutrition and available at critical times of the year, would be needed to reduce the damage they did. Bitterbrush,[177] a nutrient-rich shrub, provides essential sustenance to mule deer, especially to pregnant and lactating females in the early spring. Without cattle grazing, the introduced grasses established when the property was a working ranch would crowd out the bitterbrush. The Department decided to use selective cattle grazing to control the competition of grasses with the bitterbrush, and thus to make the property more attractive to browsing deer, especially during the lean days of late winter. The cattle grazing is managed in a way perceived to be consistent with the Department's commitment to a recovery of the range from the conditions prevailing when the property was acquired. The cattle grazing has the obvious additional effect of providing compensation to grazers for wildlife damage to private grazing land.

Maintaining the hay and alfalfa fields, rather than restoring them to grassland, fit into this scheme by providing additional fodder crops for deer. Hay production has been restricted to areas, which in the Department's judgement, are unlikely to detract from the prospects for grouse and associated species. Both upland and riparian areas have received extensive plantings of new shrubs with high food and shelter value for grouse as well as valuable in their own right as foundation elements of a restored landscape.[178]

The maintenance of both grazing and hay meadows responded to local demand for multiple uses of the land while being consistent, in the Department's view, with the Department's obligation to manage the land for the benefit of wildlife. Moreover, in the Department's view, a condition of doing the necessary work for the sharp tailed grouse, the mule deer, and the other steppe-land species is management of the properties in a way responsive to public anxiety about the conversion of a working ranch to a wildlife project. Department staff report that there is significant hostility to the presence of a would-be ark for wildlife in what is seen by many residents as a landscape whose chief meaning is as rangeland. In addressing such concerns, the Department's goal has in part been to create a receptive environment for the early stages of the project and in part to build a foundation for more successful cooperation with private landowners later on.

The Okanogan projects are situated in a landscape dominated by rangeland rather than by farms, and that use has on the whole been less destructive of native vegetation than farming. For that reason, the Department sees significant potential for reciprocal relationships with private land owners leading to the protection and extension of wildlife habitat on land surrounding the Okanogan project lands. The Department is therefore working to situate the sharp-tailed grouse project carefully in the existing range land economy of the region.

It is an approach that has been criticized. Some observers see a project originally intended to promote the recovery of the hard-pressed grouse which now seems overly concerned with mule deer herds, accommodating cattle, and providing compensation for wildlife damage to private crops. The project has been aggressive in making plantings and restoring habitat elements on which the future of the grouse depends, but it is unquestionably the case that the grouse is seen by the present management scheme as only one element—albeit an important element—in an overall plan of restoration, not the sole focus of a project originally justified by the state of the grouse.[179]

B. The Swanson Lakes Wildlife Area

The Swanson Lakes Wildlife Area has faced similar challenges. It, too, is situated among private ranch and farm lands.[180] Swanson Lakes Wildlife Area lies in the dryland wheat country of Lincoln County south and east of the Grand Coulee Dam and Lake Franklin D. Roosevelt and was acquired with funds from the Columbia River Mitigation Program and with state habitat acquisition fund.[181] It consists of approximately 23,000 acres of rangeland and farmland, some owned by the federal Bureau of Reclamation, some by the federal Bureau of Land Management and some by the Wildlife Department.[182] The lands, like those in the Okanagon Sharp-Tailed Grouse Project, were acquired to provide mitigation habitat for the Columbian sharp-tailed grouse and a wide variety of associated upland species.[183]

177. *Purshia tridentata*, *see* HITCHCOCK & CRONQUIST, *supra* note 57.

178. *See* sources cited *supra* note 57.

179. *See* Weddell, *supra* note 176. Restoration of lowland areas on the Okanogan properties has proceeded in tandem with enhancements in the uplands where grouse breed and nest. There have been extensive upland plantings. The reduction or elimination of grazing pressure from areas important to grouse have permitted the recovery of important structures of shrub growth.

180. *See id.*

181. *See id.*

182. *See* JULI ANDERSON & PAUL ASHLEY, WASH. DEP'T FISH & WILDLIFE, SWANSON LAKES ENHANCEMENT PLAN 7 (July 1995).

183. *See id.*

The acquired property lies in a hard-used band of country, dedicated to grazing and wheat.[184] Increasingly, landowners in the area are turning to ground water pumping in hopes of improving the productivity of their lands. Practical and legal limits on groundwater extractions mean that much of the land surrounding Swanson Lakes will continue as grazing land or crop land of lesser productivity.[185]

One of the effects of the limits on groundwater development is pressure for private access to the improved rangeland at Swanson Lakes. That is so because the limits on future pumping diminish the prospects for the development of surrounding farm- and range land, and grazers in the locality maintain that the improved lands at Swanson Lakes should be used in a fashion that improves the viability of local livestock operations, which are suffering hard times.[186] Neighboring landowners want grazing access to the improved grasslands created by the creation of the conservation reserve.[187]

Moreover, the groundwater pumping that is occurring threatens the water resources on which the success of Swanson Lakes depends. The Swanson Lakes site is dotted with ponds, crossed by minor creeks, and contains approximately 1,950 acres of wet meadows, marshes, and semi-permanent water.[188] The area is one where there is substantial hydraulic continuity between groundwater and surface water sources.[189] Groundwater pumping has the capacity greatly to diminish the availability of surface water sources and so to compromise the site as wildlife habitat.[190] Groundwater pumping in this region has been demonstrated to cause the disappearance of creeks and ponds, and the desiccation of wet meadows and marshes.[191] One consequence of the general drying has been the subsidence of some meadows and marsh areas. The sunken lands then become subject to flooding when run-off events occur, and are converted to hardpan when the flood waters evaporate. Not only is the quality of existing habitat jeopardized, the success of remediation efforts is greatly complicated and their expense increased by the unavailability of natural water at critical times of the year.[192] The possibility for legal recourse for injury to rights in surface water caused by ground water pumping exists in Washington, but the current status of a ready administrative remedy for such harms is problematic.[193] Further, because designation of the Swanson Lakes site was based in part on local consensus and assurances that the creation of a wildlife area would not impact the use of nearby private lands,[194] it is politically awkward for the Wildlife Department to challenge private water uses. In a final ironic turn, the Department has found itself obliged to become a groundwater pumper to irrigate wet meadows in order to offset injuries to surface water resources caused by the ground water extractions of others.

The fact that, at Swanson Lakes, land acquisitions for the conservation reserve depended upon the assembly of local consensus means that resistance to pressures to allow uses that are not consistent with optimal habitat values requires tact and an effort to address the sources of pressure for such inconsistent uses. One tool that may help is the effort by the Wildlife Department to obtain designation of the farm and range land lying within the ranges of the sharp-tailed grouse, the pygmy rabbit and the sage grouse as National Priority Areas under the Conservation Reserve Program of the 1995 and 1996 Farm Bills.[195] Such designation is made upon a showing of the high value to wildlife and ecosystem health of including in the Conservation Reserve Program farm lands which do not meet the traditional requirements for participation in the Conservation Reserve Program.[196] Designation would allow farmland to be retired and dedicated to habitat use. Landowners would receive compensation and the tension between wildlife habitat development and private uses in the area would be diminished. By retiring croplands near important habitat areas and substituting for crop cover vegetation that approximates natural shrub-steppe conditions, larger expanses of habitat lands could be created and pressures for extending groundwater pumping might be diminished.

Both the Swanson Lakes project and the Okanogan Sharp-Tail project are in early days, and

184. *See id.*

185. *See id.*

186. *See id.*

187. *See id.*

188. *See id.*

189. *See* JOHN COVERT, OPEN-FILE TECHNICAL REPORT, GROUNDWATER & SURFACE WATER MEASUREMENTS AT THE BARING SPRING SITE, LINCOLN COUNTY, WASHINGTON (Dec. 1993); LINTON WILDRICK, WASH. DEP'T ECOLOGY, HYDROLOGIC EFFECTS OF GROUND-WATER PUMPING ON SINKING CREEK AND TRIBUTARY SPRINGS, LINCOLN COUNTY, WASHINGTON (Aug. 1991).

190. *See id.*

191. *See id.*

192. *See* ANDERSON & ASHLEY, *supra* note 182.

193. *See* Rettkowski v. Department of Ecology, 858 P.2d 232 (1993).

194. *See* ANDERSON & ASHLEY, *supra* note 182.

195. Conversation with David Ware, Director of Upland Bird Programs for the Washington Department of Fish and Wildlife.

196. *See* sources cited *supra* notes 30 & 79.

the resolution of the challenges they face lies ahead. The essential point here is that the relatively large scale of each project, and each project's exclusive dedication to habitat, has not insulated the projects from pressures to conform to the needs of a production-oriented landscape.

VI. Conclusion

The main object of the Upland Wildlife Restoration Program has been to create and preserve wildlife habitat on active range and agricultural lands. The Program has adapted funding sources and techniques of working with landowners grounded in the Wildlife Department's origins as a game management agency to address a more comprehensive array of wildlife and habitat needs. There have been two especially important adaptations of traditional agency functions. The first has been a willingness to work with landowners in truly cooperative arrangements in which the Wildlife Department makes clear its dependence on and appreciation of access to private land and attempts to offer something of value in return for that access. That approach is a direct product of the lessons learned by the Wildlife Department from the failure of earlier generations of habitat efforts on private lands. The second, necessary to make real the Department's professed commitment to work more effectively with landowners, has been a decentralized organizational structure in which local resource managers are encouraged to exercise initiative and judgment in recruiting landowners whose management of their land is consistent with the habitat objectives of the Program. Earning the trust of the landowners is understood by all within the Program to be essential to the Program's success, and the main foundation for establishing that trust is understood to be the relationship between the landowner and the Program s resource managers. Those adaptations have come in response both to a fresh commitment within the Department to the importance of extending and improving habitat and to greater public demand for finding and maintaining a place for wildlife in populated landscapes.

The Program, by its very nature, has been incremental and parcel-specific. That is so because it is operating in a landscape whose ecological potential is in the hands of many individual owners. Those owners must be singly recruited, and their continuing participation depends upon the maintenance of individual relationships. The selection of lands suitable for habitat sites has been similarly individualized. The Program has relied upon a common understanding among its staff as to larger habitat objectives to assure that site selection, planting and maintenance are consistent with the goal of creating habitat units that in the aggregate become meaningful parts of habitat networks.

The realization of Program goals has operated under two main constraints. The first is lack of certainty that the inducements the Program can offer to landowners will in fact keep the landowners in the Program. Leases are not permanent. Voluntary, uncompensated arrangements are unstable by nature. Major budget resources, the Snake River Compensation Program and the special Interior Department facility for the Farmland Wildlife Project, are not perennial, and the state legislature has not been generous in appropriating funds for habitat work. The second constraint is the fact that the landscape in which the Program operates is emphatically dedicated to economic production. It is simply very difficult in many cases to tailor the goal of habitat preservation to the economic and cultural imperatives of the place.

An official in the Washington State office of the United States Natural Resources Conservation Service has disparaged the Upland Wildlife Restoration Program as no more than "playing Johnny Appleseed out there." A twofold criticism is intended. The first is that the recruitment and retention of individual parcels of habitat lands is too precarious and incremental under the Program, with too little assurance that the next round of development pressures on the land will not sweep away the habitat structures the Program has established. Until the Wildlife Department more successfully engages the economic pressures on agricultural and range land, its efforts will in that view remain too vulnerable to be capable of producing lasting change. The second implied criticism is that the Program represents a dissipation of energies and resources that would be better spent in making good on the habitat potential of such large scale projects as the U.S. Department of Agriculture's Conservation Reserve Program.[197] Indeed, the Washington Wildlife Department has on occasion been faulted for not having been sufficiently active at the time of the critical early rounds of cropland retirements under the Conservation Reserve

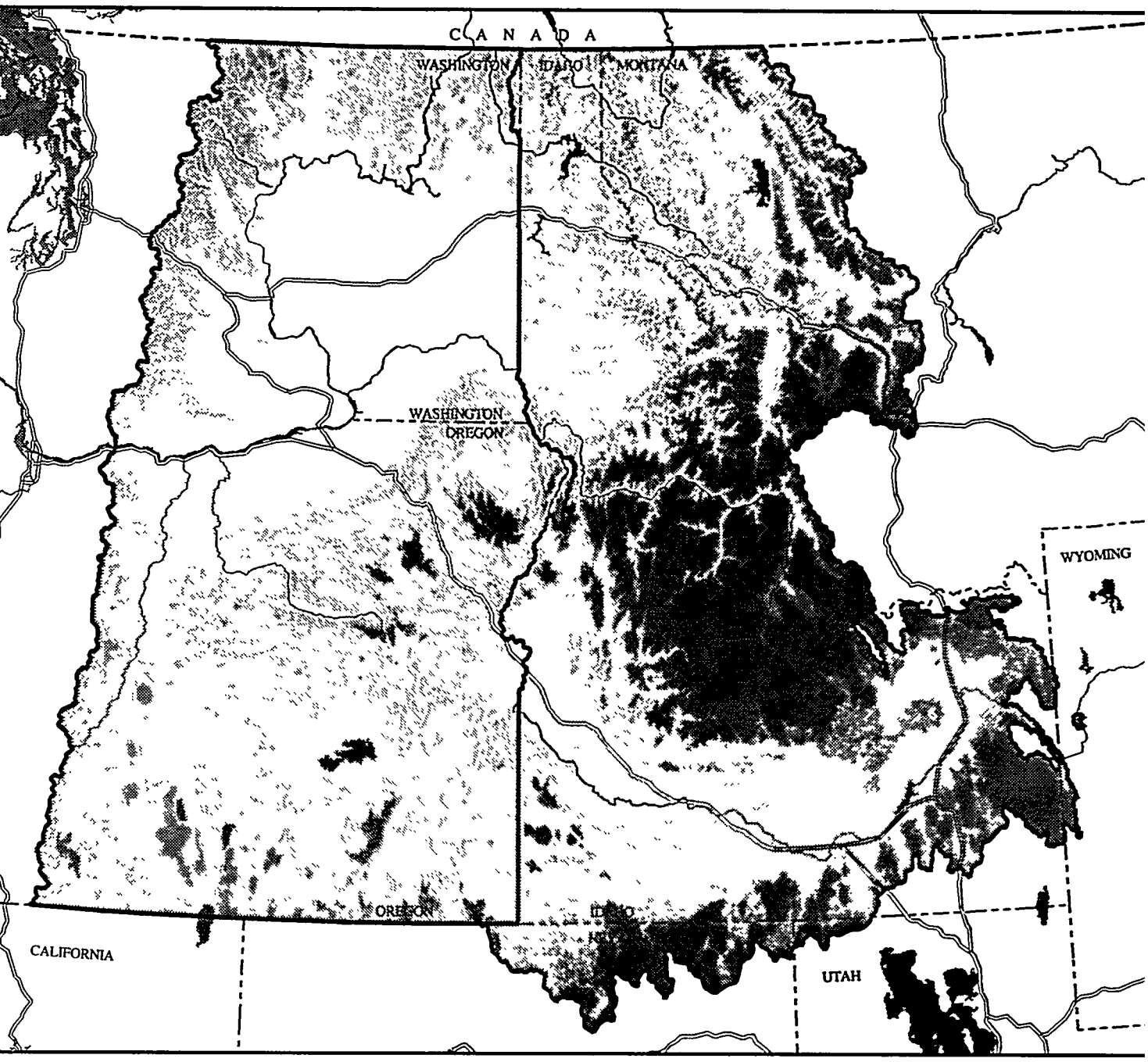
197. In recent rounds of CRP land enrollments, the Wildlife Deparment has been more active in encouraging landowners to plant retired farm lands with vegetation more supportive of wildlife. As this article goes to press, a fresh round of CRP signups is in progress, and agents of the Wildlife Deparment are meeting with landowners and the NRCS to improve the wildlife values of the CRP plantings that are to come.

Program, missing opportunities to encourage the planting of CRP lands with vegetation that offered more potential for wildlife than the crested wheat grass that dominates so much of the CRP land in eastern Washington.[198]

The Upland Wildlife Restoration Program is plainly not enough, taken alone, to meet the many pressures on wildlife habitat in Washington's range land and farmland interior. That said, the Program constitutes an important structure for extending habitat to private lands. It is reaching lands that would otherwise not be reached, and it is providing a structure of smaller habitat units that can function as components of more comprehensive systems that include both public lands and larger scale private holdings retired from production. The Program has also served as an important vehicle for the Wildlife Department to begin to establish new patterns of working with landowners, and to explore uses of established budget resources to extend habitat to the private lands that dominate the Columbia Plain.

The pressures to use and develop the lands of the Columbia Plain will not diminish. The methods and practices of the Upland Wildlife Restoration Program will be useful in developing strategies for future successful collaborations with private landowners and may shape how those pressures will be addressed.

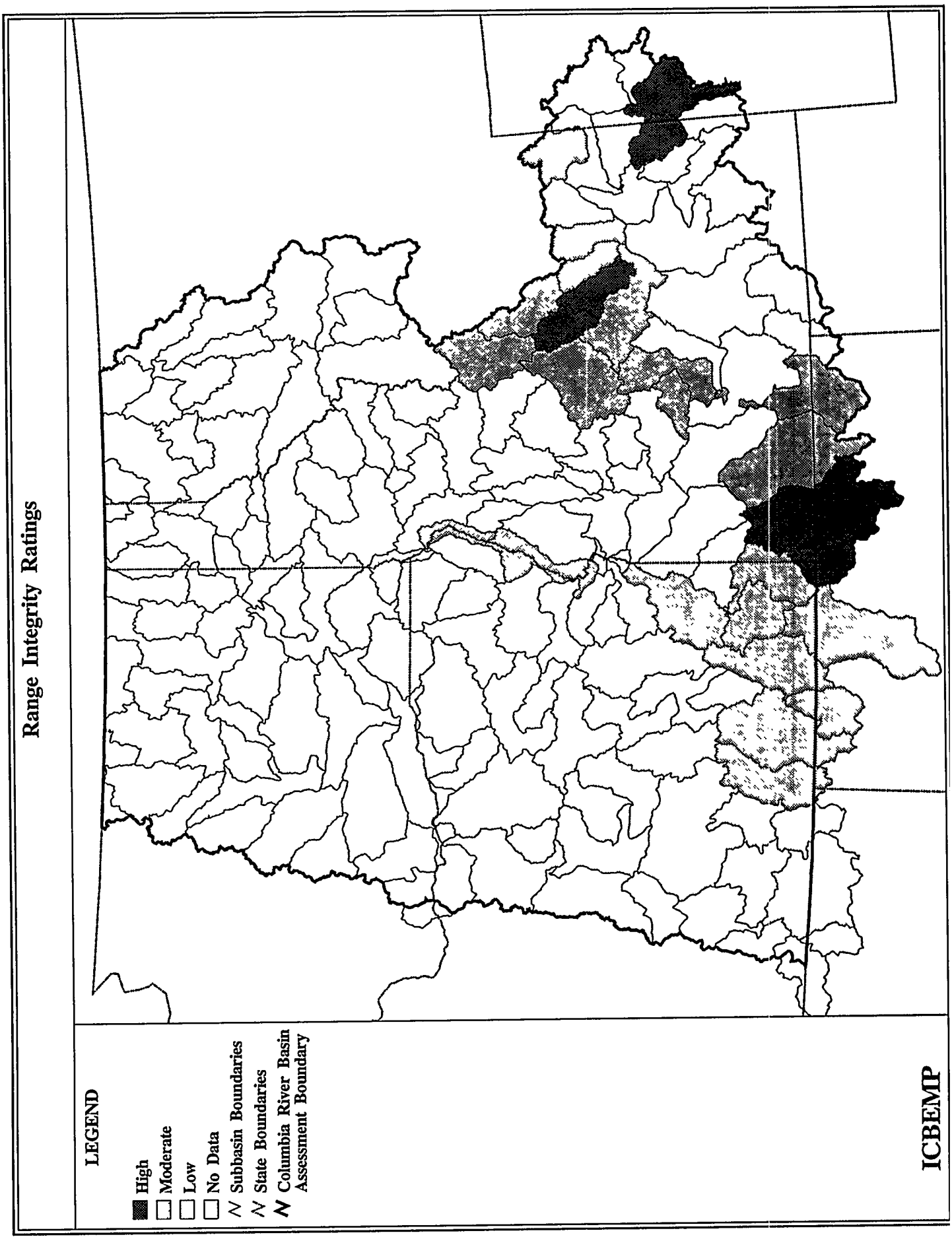
198. While crested wheatgrass (*Agropyron cristatum*) has been a useful component for developing wildlife habitat, it is understood that seeding large blocks of land in crested wheatgrass without the addition of other vegetation types may fail to provide the effective cover and food sources for wildlife that more complex plantings provide. Jerry L. Holechek, *Crested Wheatgrass*, 3 RANGELANDS 151-53 (1981); T.R. Vale, *Sagebrush Conversion Projects: An Element of Contemporary Environmental Change in the Western United States*, 6 BIOLOGICAL CONSERVATION 274-84 (1974). Often, however, seed propagation from other sites will cause crested wheatgrass monocultures to develop complexity over time.



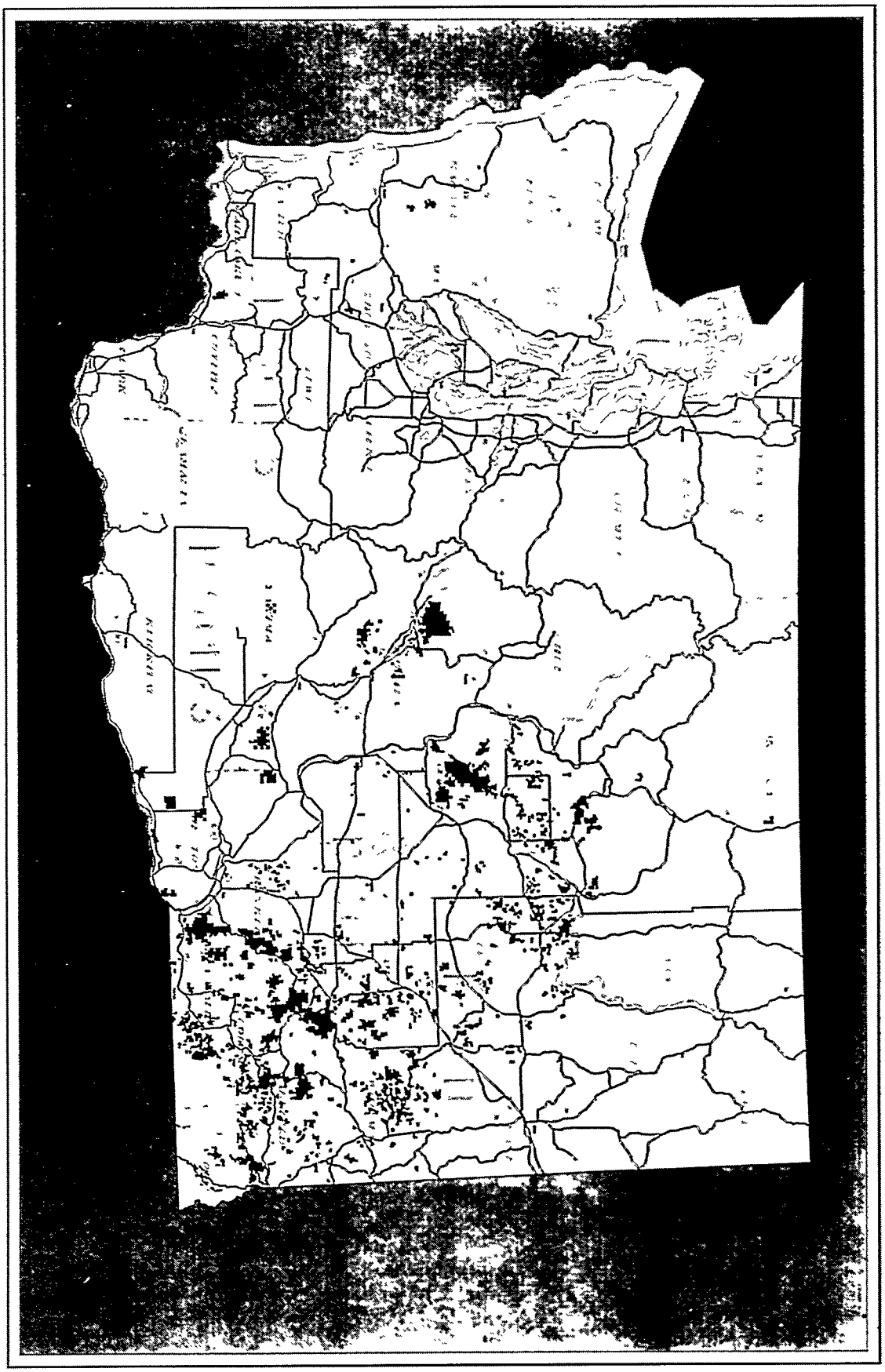
Map 2-2.
Topography

INTERIOR COLUMBIA
BASIN ECOSYSTEM
MANAGEMENT PROJECT

Project Area
1996


Range Integrity Ratings
LEGEND
High
Moderate
Low
No Data
Subbasin Boundaries
State Boundaries
Columbia River Basin Assessment Boundary
ICBEMP

Appendix C — Department of Fish and Wildlife Cooperative Private Land Agreements, DNR Data Map



■ Private Land Agreements